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(54) Title: 2-AMINO-THIAZOLE DERIVATIVES, PROCESS FOR THEIR PREPARATION, AND THEIR USE AS ANTITUMOR **AGENTS**

$$\mathbb{R}^{N} \stackrel{O}{\searrow}_{\mathbb{R}_{1}} \qquad ($$

(57) Abstract

Compounds which are 2-amino-1,3-thiazole derivatives of formula (I) wherein R is a halogen atom, a nitro group, an optionally substituted amino group or it is a group, optionally further substituted, selected from i) straight or branched C1-C8 alkyl, C2-C6 alkenyl or C2-C6 alkynyl; ii) C3-C6 cycloalkyl; iii) aryl or arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain; R₁ is an optionally substituted group selected from: i) straight or branched C₁-C₈ alkyl or C₂-C₆ alkenyl; ii) 3 to 6 membered carbocycle or 5 to 7 membered heterocycle ring; iii) aryl or arylcarbonyl; iv) arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain; v) arylalkenyl with from 2 to 6 carbon atoms within the straight or branched alkenyl chain; vi) an optionally protected amino acid residue; or a pharmaceutically acceptable salt thereof; are useful for treating cell proliferative disorders associated with an altered cell dependent kinase activity.

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2-AMINO-THIAZOLE DERIVATIVES, PROCESS FOR THEIR PREPARATION, AND THEIR USE AS ANTITUMOR AGENTS.

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The present invention relates to 2-amino-thiazole derivatives, to a process for their preparation, to pharmaceutical compositions containing them and to their use as therapeutic agents, particularly in the treatment of cancer and cell proliferative disorders.

Several cytotoxic drugs such as, e.g. fluorouracil (5-FU), doxorubicin and camptothecins result to damage DNA or to affect cellular metabolic pathways and thus cause, in many cases, an indirect block of the cell cycle.

Therefore, by producing an irreversible damage to both normal and tumor cells, these agents result in a significant toxicity and side-effects.

In this respect, compounds capable of being highly specific antitumor agents by selectively leading to tumor cell arrest and apoptosis, with comparable efficacy but reduced toxicity than the currently available drugs, are desirable.

It is well known in the art that progression through the cell cycle is governed by a series of checkpoint controls, otherwise referred to as restriction points, which are regulated by a family of enzymes known as the cyclin-dependent kinases (cdk).

In their turn, the cdks themselves are regulated at many levels such as, for instance, binding to cyclins.

A normal progression through the cell cycle is controlled by the coordinated activation and inactivation of different cyclin/cdk complexes. In G1, both cyclin D/cdk4 and cyclin E/cdk2 are thought to mediate the onset of S-phase.

Progression through S-phase requires the activity of cyclin A/cdk2 whereas the activation of cyclin A/cdc2 (cdk1) and cyclin B/cdc2 are required for the onset of metaphases.

For a general reference to cyclins and cyclin-dependent kinases see, for instance, Kevin R. Webster et al. in Exp. Opin. Invest. Drugs, 1998, Vol. 7(6), 865-887.

5 Checkpoint controls are defective in tumor cells due, in part, to disregulation of cdk activity. For example, altered expression of cyclin E and cdk's has been observed in tumor cells, and deletion of the cdk inhibitor p27 KIP gene in mice has been shown to result in a higher incidence of cancer.

Increasing evidence supports the idea that the cdks are rate-limiting enzymes in cell cycle progression and, as such, represent molecular targets for therapeutic intervention. In particular, the direct inhibition of cdk/cyclin kinase activity should be helpful in restricting the unregulated proliferation of a tumor cell.

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It has now been found that the 2-amino-1,3-thiazoles of the invention are endowed with cdk/cyclin kinase inhibitory activity and are thus useful in therapy as antitumor agents whilst lacking, in terms of both toxicity and side effects, the aforementioned drawbacks known for currently available antitumor drugs.

More specifically, the compounds of this invention are 25 useful in the treatment of a variety of cancers including, but not limited to: carcinoma such as bladder, breast, colon, kidney, liver, lung, including small cell cancer, esophagus, gall-bladder, ovary, pancreas, stomach, cervix, thyroid, prostate, and skin, including squamous 30 cell carcinoma; hematopoietic tumors of lymphoid lineage, including acute lymphocitic leukemia, leukemia, lymphoblastic leukemia, B-cell lymphoma, T-cell-lymphoma, Hodgkin's lymphoma, non-Hodgkin's lymphoma, hairy cell lymphoma and Burkett's lymphoma; hematopoietic tumors of 35 myeloid lineage, including acute and chronic myelogenous leukemias, myelodysplastic syndrome and promyelocytic leukemia; tumors οf mesenchymal origin, including fibrosarcoma and rhabdomyosarcoma; tumors of the central

and peripheral nervous system, including astrocytoma, neuroblastoma, glioma and schwannomas; other tumors, including melanoma, seminoma, teratocarcinoma, osteosarcoma, xenoderoma pigmentosum, keratoctanthoma, thyroid follicular cancer and Kaposi's sarcoma.

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Due to the key role of cdks in the regulation of cellular proliferation, these 2-amino-1,3-thiazole derivatives are also useful in the treatment of a variety of cell proliferative disorders such as, for instance, benign prostate hyperplasia, familial adenomatosis, polyposis, neuro-fibromatosis, psoriasis, vascular smooth cell proliferation associated with atherosclerosis, pulmonary fibrosis, arthritis, glomerulonephritis and post-surgical stenosis and restenosis.

The compounds of the invention can be useful in the treatment of Alzheimer's disease, as suggested by the fact that cdk5 is involved in the phosphorylation of tau protein (*J.Biochem.*, 117, 741-749, 1995).

- 20 compounds of this invention, as modulators of apoptosis, could be useful in the treatment of cancer, viral infections, prevention of AIDS development in HIVinfected individuals. autoimmune diseases and neurodegenerative disorder.
- 25 The compounds of this invention could be useful in inhibiting tumor angiogenesis and metastasis.

The compounds of this invention may also act as inhibitors of other protein kinases, e.g. protein kinase C, her2,

- rafl, MEK1, MAP kinase, EGF receptor, PDGF receptor, IGF receptor, PI3 kinase, weel kinase, Src, Abl and thus be effective in the treatment of diseases associated with other protein kinases.
- Several 2-amino-1,3-thiazole derivatives are known in the art. Just few examples among them are 2-acetamido-, 2-propionamido- or 2-butyramido-1,3-thiazole derivatives further substituted by halogen atoms in position 5 of the

thiazole ring, which are reported as herbicides in JP 73027467 (Sankyo Co. Ltd.) or US 3,374,082 (The Upjohn 5-nitro-2-benzamido-1,3-thiazole is reported pesticide in Ann. Rech. Vet., 22(4), 359-63, phenyl-2-acetamido-1,3-thiazoles further substituted onto phenyl ring reported as synthetic are intermediates (Chemical Abstracts, 1980, 92:128793); and 5 – dimethylaminomethyl- or 5-diethylaminomethyl-2-acetamido-1,3-thiazole, both reported as herbicides in JP 71018564 (Japan Gas Chem Co.).

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Several other 2-amino-1,3-thiazole derivatives have been reported in the art as useful therapeutic agents.

In particular, 5-methyl-1,3-thiazoles further substituted in position 2 of the thiazole ring by a benzothiazinyl-carbonylamino moiety, or derivatives thereof, have been described as cyclooxygenase inhibitors; see, for instance, C.A. 126(1997):301540.

2-Benzamido-1,3-thiazoles are disclosed in EP-A-261503 S.p.A.) as antiallergic agents; 5-Alkyl-2phenylalkylcarbonylamino-1,3-thiazoles further substituted onto the phenyl ring with an alkenylcarbonyl alkynylcarbonyl moieties are disclosed in WO 98/04536

(Otsuka Pharmaceutical Co.) as protein kinase C inhibitors. 5-Arylthio-2-acylamino-1,3-thiazole derivatives are disclosed in EP-A-412404 (Fujisawa Pharm Co.) as antitumor

disclosed in EP-A-412404 (Fujisawa Pharm. Co.) as antitumor agents.

In addition, among the compounds reported in the art as therapeutic agents, DE 2128941 (Melle-Bezons) discloses 2-aminomethylcarbonylamino-5-chloro-1,3-thiazoles as

antiinflammatory, sedative and analgesic agents; the compound 2-diethylaminomethylcarbonylamino-5-chloro-1,3-thiazole being specifically exemplified therein.

Accordingly, the present invention provides the use of a compound which is a 2-amino-1,3-thiazole derivative of formula (I)

$$R \xrightarrow{N} N \xrightarrow{N} R_1 \qquad (I)$$

wherein

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R is a halogen atom, a nitro group, an optionally substituted amino group or it is a group, optionally further substituted, selected from:

- i) straight or branched C_1-C_8 alkyl, C_2-C_6 alkenyl or C_2-C_6 alkynyl;
- ii) C₃-C₆ cycloalkyl;
- iii) aryl or arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;
 - R₁ is an optionally further substituted group selected from:
 - i) straight or branched C₁-C₈ alkyl or C₂-C₆ alkenyl;
 - ii) 3 to 6 membered carbocycle or 5 to 7 membered heterocycle ring;
 - iii) aryl or arylcarbonyl;
 - iv) arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;
- v) arylalkenyl with from 2 to 6 carbon atoms within the straight or branched alkenyl chain;
- vi) an optionally protected amino acid residue; or a pharmaceutically acceptable salt thereof; in the manufacture of a medicament for treating cell proliferative disorders associated with an altered cell dependent kinase activity.

According to a preferred embodiment of the invention, the said cell proliferative disorder is selected from the group consisting of cancer, Alzheimer's disease, viral infections, auto-immune diseases or neurodegenerative disorders.

Preferably, the cancer is selected from the group consisting of carcinoma, squamous cell carcinoma, hematopoietic tumors of myeloid or lymphoid lineage, tumors of mesenchymal origin, tumors of the central and peripheral system, melanoma, nervous seminoma, teratocarcinoma,

osteosarcoma, xenoderoma pigmentosum, keratoctanthoma, thyroid follicular cancer and Kaposi's sarcoma.

According to another preferred embodiment of the invention, 5 the cell proliferative disorder is selected from the group consisting of benign prostate hyperplasia, adenomatosis polyposis, neuro-fibromatosis, psoriasis, vascular cell proliferation smooth associated atherosclerosis, pulmonary fibrosis, arthritis 10 glomerulonephritis and post-surgical stenosis restenosis.

In addition, being useful in the treatment of cell proliferative disorders associated with an altered cell dependent kinase activity, hence cell cycle inhibition or cdk/cyclin dependent inhibition, the compounds of formula (I) of the invention also enable tumor angiogenesis and metastasis inhibition.

- As above reported, some of the compounds of formula (I) of the invention have been reported in the art as useful therapeutic agents, for instance as antiinflammatory, sedative and analgesic agents.
- Therefore, it is a further object of the present invention a compound which is a 2-amino-1,3-thiazole derivative of formula (I)

$$\begin{array}{c|c}
 & O \\
 & N \\
 & N \\
 & N \\
 & H
\end{array}$$
(1)

wherein

- R is a halogen atom, a nitro group, an optionally substituted amino group or it is a group, optionally further substituted, selected from:
 - i) straight or branched C_1-C_ϵ alkyl, C_2-C_ϵ alkenyl or C_2-C_ϵ alkynyl;
- 35 ii) C₃-C₆ cycloalkyl;

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- iii) aryl or arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;
- R_1 is an optionally further substituted group selected from:
- 5 i) straight or branched C₁-C₈ alkyl or C₂-C₆ alkenyl;
 - ii) 3 to 6 membered carbocycle or 5 to 7 membered
 heterocycle ring;
 - iii) aryl or arylcarbonyl;
- iv) arylalkyl with from 1 to 8 carbon atoms within the

 straight or branched alkyl chain;
 - v) arylalkenyl with from 2 to 6 carbon atoms within the straight or branched alkenyl chain;
 - vi) an optionally protected amino acid residue;

or a pharmaceutically acceptable salt thereof; for use as a medicament; provided that each of R and R_1 , independently, is not a methyl group and that the compound is not 2-diethylaminomethyl-carbonylamino-5-chloro-1,3-thiazole.

Among the compounds of formula (I) above reported, several derivatives result to be novel.

Therefore, the present invention further provides a compound which is a 2-amino-1,3-thiazole derivative of formula (I)

$$\begin{array}{c|c}
 & O \\
 & N \\$$

25 wherein

R is a halogen atom, a nitro group, an optionally substituted amino group or it is a group, optionally further substituted, selected from:

- 30 i) straight or branched C_1-C_8 alkyl, C_2-C_6 alkenyl or C_2-C_6 alkynyl;
 - ii) C₃-C₆ cycloalkyl;
 - iii) aryl or arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;
- 35 R_1 is an optionally further substituted group selected from:

- i) straight or branched C_1-C_8 alkyl or C_2-C_6 alkenyl;
- ii) 3 to 6 membered carbocycle or 5 to 7 membered
 heterocycle ring;
- iii) aryl or arylcarbonyl;

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- 5 iv) arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;
 - v) arylalkenyl with from 2 to 6 carbon atoms within the straight or branched alkenyl chain;
 - vi) an optionally protected amino acid residue;
- or a pharmaceutically acceptable salt thereof; provided that:
 - a) R and R_1 , each independently, are not methyl;
 - b) when R is bromine or chlorine then, R_1 is not unsubstituted C_2-C_4 alkyl or an optionally substituted aminomethyl;
 - c) when R is nitro or phenyl, then R_1 is not unsubstituted phenyl.
- The compounds of formula (I) may have asymmetric carbon atoms and may therefore exist either as racemic admixtures or as individual optical isomers.

Accordingly, all the possible isomers and their admixtures and of both the metabolites and the pharmaceutically acceptable bio-precursors (otherwise referred to as prodrugs) of the compounds of formula (I), as well as the uses thereof, are also within the scope of the present invention.

In the present description, unless otherwise specified, 30 with the term halogen atom we intend a chlorine, bromine, fluorine or iodine atom.

With the term optionally substituted amino group we intend an amino group wherein one or both hydrogen atoms are optionally replaced by other substituents which are the same or different, as set forth below. With the term straight or branched C_1 - C_8 alkyl we intend a group such as, for instance, methyl, ethyl, n.propyl, isopropyl, n.butyl, isobutyl, sec-butyl, tert-butyl, n.pentyl, n.hexyl, n.heptyl, n.octyl and the like.

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With the term straight or branched C_2 - C_6 alkenyl or alkynyl we intend a group such as, for instance, vinyl, allyl, isopropenyl, 1-, 2- or 3-butenyl, isobutylenyl, pentenyl, hexenyl, ethynyl, 1- or 2-propynyl, butynyl, pentynyl, hexynyl and the like.

With the term C_3-C_6 cycloalkyl we intend a cyclopropyl, cyclobutyl, cyclopentyl or cyclohexyl group.

- With the term aryl, either as such or as arylalkyl, arylalkenyl, arylcarbonyl and the like, we intend a mono-, bi- or poly- either carbocyclic as well as heterocyclyc hydrocarbon with from 1 to 4 ring moieties, either fused or linked to each other by single bonds, wherein at least one of the carbocyclic or heterocyclic rings is aromatic.
 - Examples of aryl groups are phenyl, indanyl, biphenyl, α -or β -naphthyl, fluorenyl, 9,10-dihydroanthracenyl, pyridyl, pyrazinyl, pyrimidinyl, pyridazinyl, indolyl, imidazolyl, 1,2-methylenedioxyphenyl, thiazolyl, isothiazolyl,
- pyrrolyl, pyrrolyl-phenyl, furyl, phenyl-furyl,
 benzotetrahydrofuran, oxazolyl, isoxazolyl, pyrazolyl,
 chromenyl, thienyl, benzothienyl, isoindolinyl,
 benzoimidazolyl, tetrazolyl, tetrazolylphenyl,
 pyrrolidinyl-tetrazolyl, isoindolinyl-phenyl, quinolinyl,
- isoquinolinyl, 2,6-diphenyl-pyridyl, quinoxalinyl, pyrazinyl, phenyl-quinolyl, benzofurazanyl, 1,2,3-triazole, 1-phenyl-1,2,3-triazole, and the like.

With the term 3 to 6 membered carbocycle, hence encompassing but not limited to C_3 - C_6 cycloalkyl groups, we also intend an unsaturated carbocyclic hydrocarbon such as, for instance, cyclopentylene or cyclohexylene.

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With the term 5 to 7 membered heterocycle, hence encompassing aromatic heterocycles also referred to as aryl groups, we further intend a saturated or partially unsaturated 5 to 7 membered carbocyle wherein one or more carbon atoms are replaced by heteroatoms such as nitrogen, oxygen and sulphur.

Examples of 5 to 7 membered heterocycles, optionally benzocondensed or further substituted, are 1,3-dioxolane, pyran, pyrrolidine, pyrroline, imidazolidine, pyrazolidine, pyrazoline, piperazine, N-alkyl-piperazine, morpholine, tetrahydrofuran and the like.

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With the term amino acid residue we intend the residue of a natural α -amino acid of formula HOOC-R₁, wherein R₁ is bonded to the thiazole-NH-C(=0)- moiety and is represented by a -CH(Z)NHY group wherein Z is the characterising portion of the amino acid and Y is hydrogen or a suitable amino protecting group such as, for instance, tertbutoxycarbonyl or benzyloxycarbonyl.

20 Examples of α -amino acids are alanine, isoleucine, glycine, lysine, arginine, cystine, histidine, leucine, proline and the like.

According to the above indicated substituent meanings, any of the above R and $R_{\scriptscriptstyle 1}$ groups may be optionally substituted 25 in any of the free positions by one or more groups, for instance 1 to 6 groups, selected from: halogen, nitro, oxo groups (=0), carboxy, cyano, alkyl, perfluorinated alkyl, alkenyl, alkynyl, cycloalkyl, aryl, heterocycyl; 30 groups and derivatives thereof such as, for instance, alkylamino, alkoxycarbonylalkylamino, dialkylamino, arylamino, diarylamino or arylureido; carbonylamino groups derivatives thereof such as, for instance, hydrogenocarbonylamino (HCONH-), alkylcarbonylamino, 35 alkenylcarbonylamino, arylcarbonylamino, alkoxycarbonylamino; oxygen-substituted oximes such as, for instance, alkoxycarbonylalkoxyimino or alkoxyimino; hydroxy

groups and derivatives thereof such as, for instance, alkoxy, aryloxy, alkylcarbonyloxy, arylcarbonyloxy, cycloalkenyloxy; carbonyl groups and derivatives thereof such as, for instance, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl, aryloxycarbonyl, cycloalkyloxycarbonyl, aminocarbonyl, alkylaminocarbonyl, dialkylaminocarbonyl; sulfurated derivatives such as, for instance, alkylthio, arylthio, alkylsulphonyl, arylsulphonyl, alkylsulphinyl, arylsulphinyl, arylsulphonyloxy, aminosulfonyl, 10 alkylaminosulphonyl or dialkylaminosulphonyl. In their turn, whenever appropriate, each of the above possible substituents on R and R, may be further substituted by one or more of the aforementioned groups.

Examples of compounds of formula (I) wherein R and R_1 groups are substituted by one or more of the aforementioned substituents which, in their turn, are optionally further substituted as set forth above, are given below.

Pharmaceutically acceptable salts of the compounds of formula (I) are the acid addition salts with inorganic or organic, e.g. nitric, hydrochloric, hydrobromic, sulphuric, perchloric, phosphoric, acetic, trifluoroacetic, propionic, glycolic, lactic, oxalic, malonic, malic, maleic, tartaric, citric, benzoic, cinnamic, mandelic, methanesulphonic, isethionic and salicylic acid, as well as the salts with inorganic or organic bases, e.g. alkali or alkaline-earth metals, especially sodium, potassium, calcium or magnesium hydroxides, carbonates or bicarbonates, acyclic or cyclic amines, preferably methylamine, ethylamine, diethylamine, triethylamine or piperidine.

The compounds of formula (I) may have asymmetric carbon atoms and may therefore exist either as racemic admixtures or as individual optical isomers.

Accordingly, the use as an antitumor agent of all the possible isomers and their admixtures and of both the metabolites and the pharmaceutically acceptable bioprecursors (otherwise referred to as pro-drugs) of the

compounds of formula (I) are also within the scope of the present invention.

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Preferred compounds of formula (I), according to the present invention, are 2-amino-1,3-thiazole derivatives wherein R is a halogen atom or an optionally substituted group selected from a straight or branched C₁-C₄ alkyl, C₃-C₆ cycloalkyl, aryl or an arylalkyl with from 1 to 4 carbon atoms within the alkyl chain; R₁ is an optionally substituted group selected from straight or branched C₁-C₄ alkyl or alkenyl, aryl or arylalkyl with from 1 to 4 carbon atoms within the alkyl chain or it is an optionally protected amino acid residue.

Still more preferred compounds, within this class, are the derivatives of formula (I) wherein R is a bromine or chlorine atom or is an optionally substituted group selected from straight or branched C₁-C₄ alkyl, cyclopropyl, aryl or arylalkyl with from 1 to 2 carbon atoms within the alkyl chain; R₁ is an optionally substituted group selected from straight or branched C₁-C₄ alkyl or alkenyl, aryl or arylalkyl with from 1 to 4 carbon atoms within the alkyl chain or it is an optionally protected amino acid residue.

25 Another class of preferred compounds of the invention are the compounds of formula (I)

$$\mathbb{R} \stackrel{\mathsf{N}}{\searrow} \mathbb{N} \stackrel{\mathsf{O}}{\longrightarrow} \mathbb{R}_1$$
 (I)

wherein

R is a halogen atom or is selected from nitro, amino,
alkylamino, hydroxyalkylamino, arylamino, C₃-C₆
cycloalkyl and straight or branched C₁-C₆ alkyl which is
unsubstituted or substituted by hydroxy, alkylthio,
alkoxy, amino, alkylamino, alkoxycarbonylamino,
alkoxycarbonylalkylamino, alkylcarbonyl, alkylsulfonyl,
alkoxycarbonyl, carboxy or aryl which is unsubstituted

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or substituted by one or more hydroxy, halogen, nitro, alkoxy, aryloxy, alkylthio, arylthio, amino, alkylamino, dialkylamino, N-alkyl-piperazinyl, morpholinyl, arylamino, cyano, alkyl, phenyl, aminosulfonyl, aminocarbonyl, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl or carboxy groups, or R is an aryl group which is unsubstituted or substituted by one or more hydroxy, halogen, nitro, alkoxy, aryloxy, alkylthio, arylthio, amino, alkylamino, dialkylamino, N-alkyl-piperazinyl, 4-morpholinyl, arylamino, cyano, phenyl, aminosulphonyl, alkyl, aminocarbonyl, alkylcarbonyl, arylcarbonyl, alkoxycarbonyl or carboxy groups;

 R_1 is a straight or branched C_1 - C_6 alkyl group or an aryl group, each being unsubstituted or substituted as defined above for R;

or a pharmaceutically acceptable salt thereof; provided that:

- a) R and R₁, each independently, are not methyl;
- 20 b) when R is bromine or chlorine then, R_1 is not unsubstituted C_2-C_4 alkyl or an optionally substituted aminomethyl;
 - c) when R is nitro or phenyl, then $R_{\scriptscriptstyle 1}$ is not unsubstituted phenyl.

Examples of preferred compounds of the invention, whenever appropriate in the form of pharmaceutically acceptable salts, e.g. hydrobromide or hydrochloride salt, are the following:

- - 2. N-(5-bromo-1,3-thiazol-2-yl)-2-phenyl-acetamide;
 - N-(5-bromo-1,3-thiazol-2-yl)-benzamide;
 - 4. Ethyl 4-[(5-bromo-1,3-thiazol-2-yl)amino]-4-oxobutanoate;
- 5. N-(5-Bromo-thiazol-2-yl)-3-hydroxy-propionamide;
 - 6. N-(5-Bromo-1,3-thiazol-2-yl)-4-hydroxybutanamide;

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7. N-(5-Bromo-thiazol-2-yl)-2-ethoxy-acetamide;
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- 8. 2-N-[2-(3-pyridyl)-acetyl-amino]-5-bromo-thiazole;
- 9. 2-N-[2-(3-pyridyl)-acetyl-amino]-5-isopropyl-thiazole;
- 10. N-(5-bromo-1,3-thiazol-2-y1)-2-(3-
- 5 hydroxyphenyl)acetamide;
 - 11. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-hydroxyphenyl)acetamide
 - 12. N-(5-bromo-1,3-thiazol-2-yl)-2-(3-methoxyphenyl)acetamide;
- 10 13. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-methoxyphenyl)acetamide;
 - 14. N-(5-bromo-1,3-thiazol-2-yl)-2-(3-chorophenyl)acetamide;
 - 15. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-
- chorophenyl)acetamide;

- 16. N-(5-bromo-1,3-thiazol-2-yl)-2-(4hydroxyphenyl)acetamide;
- 17. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-hydroxyphenyl)acetamide;
- 20 18. N-(5-bromo-1,3-thiazol-2-yl)-2-(3,4-dihydroxyphenyl)acetamide;
 - 19. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4dihydroxyphenyl)acetamide;
 - 20. N-(5-bromo-1,3-thiazol-2-yl)-2-(4-hydroxy-3-methoxyphenyl)acetamide;
 - 21. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-hydroxy-3-methoxyphenyl)acetamide;
 - 22. N-(5-bromo-1,3-thiazol-2-yl)-2-(4-methoxyphenyl)acetamide;
- 30 23. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-methoxyphenyl)acetamide;
 - 24. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-chlorophenyl)acetamide;
 - 25. N-(5-isopropy1-1,3-thiazo1-2-y1)-2-phenyl-acetamide;
- 35 26. N-(5-bromo-thiazol-2-yl)-4-sulfamoyl-benzamide;
 - 27. N-(5-isopropyl-thiazol-2-yl)-4-sulfamoyl-benzamide;
 - 28. 4-amino-N-(5-bromo-1,3-thiazol-2-yl)butanamide;

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29. 3-amino-N-(5-bromo-1,3-thiazol-2-yl)propionamide;
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- 30. N-(5-isopropyl-1,3-thiazol-2-yl)-butanamide;
- 31. N-(5-bromo-1,3-thiazol-2-yl)-butanamide;
- 32. N-(5-chloro-1,3-thiazol-2-yl)-butanamide;
- 5 33. N-(5-phenyl-1,3-thiazol-2-yl)-butanamide;
 - 34. N-(5-nitro-1,3-thiazol-2-yl)-butanamide;
 - 35. N-(5-methyl-1,3-thiazol-2-yl)-butanamide;
 - 36. N-(5-benzyl-1,3-thiazol-2-yl)-butanamide;
 - 37. N-(5-isobutyl-1,3-thiazol-2-yl)-butanamide;
- 10 38. N-(5-cyclopropyl-1,3-thiazol-2-yl)-butanamide;
 - 39. N-{5-[2-(methylsulfonyl)ethyl]-1,3-thiazol-2-yl}-butanamide;
 - 40. N-[5-(2-methylthioethyl)-1,3-thiazol-2-yl]-butanamide;
 - 41. $N-\{5-[2-(methoxycarbonyl)ethyl]-1,3-thiazol-2-yl\}-$
- butanamide;

- 42. N-[5-(3-methoxy-propyl)-1,3-thiazol-2-yl]-butanamide;
- 43. N-[5-(2-ethoxy-ethyl)-1,3-thiazol-2-yl]-butanamide;
- 44. N-[5-(indol-3-yl-methyl)-1,3-thiazol-2-yl]-butanamide;
- 45. N-[5-(3-oxo-butyl)-1,3-thiazol-2 yl]-butanamide;
- 20 46. 2-[3-(3-chloropropoxy)phenyl]-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 47. 2-[3-(2-chloroethoxy)phenyl]-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 48. 2-(4-aminophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 49. 4-amino-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 50. 2-(2-amino-1,3-thiazol-4-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 51. $N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-isopropyl-1,3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-1,3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-1,3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-1,3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-[3-(3-isopropyl-2-yl)-2-$
- 30 morpholinyl)propoxy]phenyl}acetamide
 - 52. N-(5-isopropy1-1,3-thiazol-2-yl)-2-{3-[2-(4-morpholinyl)ethoxy]phenyl}acetamide
 - 53. N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-pirrolidinyl)propoxy]phenyl}acetamide
- 35 54. N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-piperazinyl)propoxy]phenyl}acetamide

- 55. 2-{3-[2-(dimethylamino)ethoxy]phenyl}-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide;
- 56. 2-{3-[3-(dimethylamino)propoxy]phenyl}-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 5 57. 2-[4-(dimethylamino)phenyl]-N-(5-isobutyl-1,3-thiazol-2-yl)acetamide
 - 58. 2-(1,3-benzodioxol-5-yl)-N-(5-isobutyl-1,3-thiazol-2-yl) acetamide
 - 59. N-(5-benzyl-1,3-thiazol-2-yl)-2-[4-
- 10 (dimethylamino)phenyl]acetamide
 - 60. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[3-(2-methoxyethoxy)-phenyl]acetamide
 - 61. 3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-(4-methyl-1-piperazinyl)benzamide
- 15 62. N-(5-isobutyl-1,3-thiazol-2-yl)-2-(3-pyridinyl)acetamide
 - 63. N-(5-benzyl-1,3-thiazol-2-yl)-2-(3-pyridinyl)acetamide
- 64. 2-[N-[2'-N'-(ethoxycarbonyl-methyl)-amino]-acetyl]amino-5-bromo-thiazole
 - 65. 2-anilino-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 66. (R)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylpropanamide
- 67. (S)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-25 phenylpropanamide
 - 68. N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 69. 2,5-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 70. 3,5-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 71. 3,4-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 30 72. 2,4-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 73. 2,3-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 74. 3-iodio-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 75. 2-iodio-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 76. 4-iodio-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 35 77. 3-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 78. 4-chloro-2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide

- 79. 5-bromo-2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 80. 3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 81. 2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 5 82. 4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 83. 3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 84. 2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 85. 4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 86. 2,4-difluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 10 87. 3,4-difluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 88. 2,3,4,5,6-pentafluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 89. N-(5-isopropyl-1,3-thiazol-2-yl)-4-methyl-3-nitrobenzamide
- 90. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-nitrobenzamide

- 91. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methyl-2-nitrobenzamide
- 92. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethyl-4-nitrobenzamide
 - 93. N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxy-2-nitrobenzamide
 - 94. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-2-nitrobenzamide
- 95. N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxy-3-nitrobenzamide
 - 96. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-4-nitrobenzamide
 - 97. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dinitrobenzamide
- 30 98. 5-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-nitrophenyl octanoate
 - 99. N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide
 - 100. N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide
 - 101. N-(5-isopropyl-1,3-thiazol-2-yl)-4-nitrobenzamide
- 35 102. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(methylsulfonyl)-3-nitrobenzamide
 - 103. 4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide

- 104. 6-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide
- 105. 4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide
- 5 106. 2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-nitrobenzamide
 - 107. 5-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide
 - 108. 2-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)-5-nitrobenzamide

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- 109. 4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide
- 110. 4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide
- 15 111. N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitro-4-(trifluoromethyl)benzamide
 - 112. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-bis(trifluoromethyl)benzamide
 - 113. N-(5-isopropyl-1,3-thiazol-2-yl)-2,6-bis(trifluoromethyl)benzamide
 - 114. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(trifluoromethyl)benzamide
 - 115. N-(5-isopropyl-1,3-thiazol-2-yl)-3-(trifluoromethyl)benzamide
- 25 116. 3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-(trifluoromethyl)benzamide
 - 117. 2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-(trifluoromethyl)benzamide
 - 118. 5-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-(trifluoromethyl)benzamide
 - 119. 2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-(trifluoromethyl)benzamide
 - 120. 4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-(trifluoromethyl)benzamide
- 35 121. methyl 4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}benzoate
 - 122. methyl 2-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}benzoate

- 123. 4-cyano-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 124. 3-cyano-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 125. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methylbenzamide
- 126. N-(5-isopropyl-1,3-thiazol-2-yl)-2-methylbenzamide
- 5 127. N-(5-isopropyl-1,3-thiazol-2-yl)-4-methylbenzamide
 - 128. N-(5-isopropyl-1,3-thiazol-2-yl)-4-vinylbenzamide
 - 129. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(2-phenylethynyl)benzamide
- 130. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-4methylbenzamide
 - 131. 2-benzyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 132. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenethylbenzamide
 - 133. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylbenzamide
 - 134. N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenylbenzamide
- 15 135. 4-(tert-butyl)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 136. N-(5-isopropyl-1,3-thiazol-2-yl)-4-isopropylbenzamide
 - 137. N-(5-isopropyl-1,3-thiazol-2-yl)-4-pentylbenzamide
 - 138. 3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methylbenzamide
- 139. N-(5-isopropyl-1,3-thiazol-2-yl)-3,4-dimethylbenzamide
 - 140. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethylbenzamide
 - 141. 4-acetyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 142. N-(5-isopropyl-1,3-thiazol-2-yl)-4-
- 25 (methylsulfonyl)benzamide
 - 143. 5-(aminosulfonyl)-2,4-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 144. 5-(aminosulfonyl)-4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 30 145. 3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxybenzamide
 - 146. 3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxybenzamide
 - 147. 5-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-
- 35 methoxybenzamide

- 148. N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxybenzamide
- 149. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxybenzamide
- 150. N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxybenzamide

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151. N-(5-isopropyl-1,3-thiazol-2-yl)-3,4-dimethoxybenzamide
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- 152. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethoxybenzamide
- 5 153. N-(5-isopropyl-1,3-thiazol-2-yl)-2,4-dimethoxybenzamide
 - 154. N-(5-isopropyl-1,3-thiazol-2-yl)-2,3-dimethoxybenzamide
 - 155. N-(5-isopropyl-1,3-thiazol-2-yl)-3-phenoxybenzamide
- 10 156. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenoxybenzamide
 - 157. N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenoxybenzamide
 - 158. 2-ethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 159. 4-ethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 160. N-(5-isopropyl-1,3-thiazol-2-yl)-3,4,5-trimethoxybenzamide
 - 161. 3,4-diethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 162. 3,4,5-triethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 163. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-4-20 (methoxymethoxy)benzamide
 - 164. 4-butoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 165. N-(5-isopropyl-1,3-thiazol-2-yl)-4-propoxybenzamide
 - 166. 4-isopropoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 167. N-(5-isopropyl-1,3-thiazol-2-yl)-1,3-benzodioxole-5-carboxamide
 - 168. 4-(benzyloxy)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 169. 4-(2-cyclohexen-1-yloxy)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 30 170. N-(5-isopropyl-1,3-thiazol-2-yl)-4- (trifluoromethoxy) benzamide
 - 171. 4-(difluoromethoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 172. N-(5-isopropyl-1,3-thiazol-2-yl)-4-
- 35 (methylsulfanyl)benzamide

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173. 2-[(4-chlorophenyl)sulfinyl]-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide

- 174. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[(4-nitrophenyl)sulfinyl]benzamide
- 175. N-(5-isopropyl-1,3-thiazol-2-yl)-4-[(4-methylphenyl)sulfonyl]-3-nitrobenzamide
- 5 176. N-(5-isopropyl-1,3-thiazol-2-yl)-3[(trifluoromethyl)sulfanyl]benzamide
 - 177. N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxy-4-(methylsulfanyl)benzamide
- 178. 2-[(2-cyanophenyl)sulfanyl]-N-(5-isopropyl-1,3-10 thiazol-2-yl)benzamide
 - 179. $N\sim1\sim$, $N\sim1\sim$ -diethyl-3, 6-difluoro- $N\sim2\sim$ -(5-isopropyl-1, 3-thiazol-2-yl)phthalamide
 - 180. 4-formyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 181. 2-formyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 15 182. 4-{[(2,5-dimethoxyanilino)carbonyl]amino}-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 183. 4-(hydroxymethyl)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 184. 4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-nitrobenzyl acetate
 - 185. 4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-nitrobenzyl 4-(acetylamino)-3-iodobenzoate
 - 186. 4-(acetylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 25 187. N-(5-isopropyl-1,3-thiazol-2-yl)-4-[(2-phenylacetyl)amino]benzamide

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- 188. 4-(acetylamino)-3-iodo-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 189. 4-amino-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 30 190. 4-(dimethylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 191. 3-(dimethylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 192. 2-(methylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 193. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[3-(trifluoromethyl)anilino]benzamide

- 194. 3-{[(5-bromo-1,3-dioxo-1,3-dihydro-2H-isoindol-2-y1)methyl]amino}-N-(5-isopropyl-1,3-thiazol-2-y1)benzamide
- 195. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(1H-pyrrol-1-yl)benzamide
 - 196. 2,6-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)isonicotinamide
 - 197. 2-(4-bromophenyl)-6-(4-iodophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)isonicotinamide
- 10 198. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[3-(trifluoromethyl)anilino]nicotinamide
 - 199. 2,6-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)nicotinamide
 - 200. 5,6-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)nicotinamide
 - 201. 2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-6-methylnicotinamide
 - 202. 2,6-dichloro-5-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)nicotinamide
- 20 203. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenoxynicotinamide
 - 204. N-(5-isopropyl-1,3-thiazol-2-yl)-6-(2,2,2-trifluoroethoxy)nicotinamide
 - 205. N-(5-isopropyl-1,3-thiazol-2-yl)-2,6-dimethoxynicotinamide
- 25 206. N-(5-isopropyl-1,3-thiazol-2-yl)-2-quinoxalinecarboxamide
 - 207. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-pyrazinecarboxamide
 - 208. N-(5-isopropyl-1,3-thiazol-2-yl)-8-
- 30 quinolinecarboxamide

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- 209. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-4-quinolinecarboxamide
- 210. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-1-phenyl-1H-pyrazole-4-carboxamide
- 35 211. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-1H-pyrazole-3-carboxamide
 - 212. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-pyrazole-4-carboxamide

- 213. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-phenyl-2H-1,2,3-triazole-4-carboxamide
- 214. 2-[(2,1,3-benzoxadiazol-5-yloxy)methyl]-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methyl-1,3-thiazole-5-carboxamide
- 215. N-(5-isopropyl-1,3-thiazol-2-yl)-9H-fluorene-1-carboxamide
- 216. N-(5-isopropyl-1,3-thiazol-2-yl)-7-methoxy-1-benzofuran-2-carboxamide
- 10 217. N-(5-isopropyl-1,3-thiazol-2-yl)-1-[(4-methylphenyl)sulfonyl]-1H-pyrrole-3-carboxamide

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- 218. 2-ethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)-1-naphthamide
- 219. 4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-1-naphthamide
- 220. N-(5-isopropyl-1,3-thiazol-2-yl)-2-naphthamide
- 221. N-(5-isopropyl-1,3-thiazol-2-yl)-9,10-dioxo-9,10-dihydro-2-anthracenecarboxamide
- 222. N-(5-isopropyl-1,3-thiazol-2-yl)-9-oxo-9H-fluorene-4carboxamide
 - 223. N-(5-isopropyl-1,3-thiazol-2-yl)-9-oxo-9H-fluorene-1-carboxamide
 - 224. N-(5-isopropyl-1,3-thiazol-2-yl)-8-oxo-5,6,7,8-tetrahydro-2-naphthalenecarboxamide
- 25 225. N-(5-isopropyl-1,3-thiazol-2-yl)-1,3-dioxo-1,3-dihydro-2-benzofuran-5-carboxamide
 - 226. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-5-carboxamide
 - 227. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-4-carboxamide
 - 228. N-(5-isopropyl-1,3-thiazol-2-yl)-1-methyl-2-phenyl-1H-indole-5-carboxamide
 - 229. 2-butyl-N-(5-isopropyl-1,3-thiazol-2-yl)-1-methyl-1H-indole-5-carboxamide
- 35 230. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-6-carboxamide
 - 231. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methoxy-1H-indole-2-carboxamide

- 232. 1-allyl-2-butyl-N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-5-carboxamide
- 233. N-(5-isopropyl-1,3-thiazol-2-yl)-1-methyl-1H-indole-2-carboxamide
- 5 234. 1-benzyl-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-1H-indole-5-carboxamide
 - 235. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-1,2,3-benzotriazole-5-carboxamide
 - 236. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethyl-4-isoxazolecarboxamide
 - 237. N-(5-isopropyl-1,3-thiazol-2-yl)-3-thiophenecarboxamide

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- 238. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methyl-2-thiophenecarboxamide
- 15 239. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-thiophenecarboxamide
 - 240. 5-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)-2-thiophenecarboxamide
 - 241. N-(5-isopropyl-1,3-thiazol-2-yl)-3-[(2,3,3-trichloroacryloyl)amino]-2-thiophenecarboxamide
 - 242. 5-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
 - 243. N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
 - 244. N-(5-isopropyl-1,3-thiazol-2-yl)-5-(4-nitrophenyl)-2-furamide
- 25 245. N-(5-isopropyl-1,3-thiazol-2-yl)-5-(2-nitrophenyl)-2-furamide
 - 246. 5-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
 - 247. N-(5-isopropyl-1,3-thiazol-2-yl)-5-[3-(trifluoromethyl)phenyl]-2-furamide
 - 248. 5-(4-chloro-2-nitrophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
 - 249. N-(5-isopropyl-1,3-thiazol-2-yl)-5-(4-methyl-2-nitrophenyl)-2-furamide
- 35 250. 5-[2-chloro-5-(trifluoromethyl)phenyl]-N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
 - 251. tert-butyl (1R)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-phenylethylcarbamate

- 252. (1R)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-phenylethyl acetate
- 253. (1S)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-phenylethyl acetate
- 5 254. (R,S)-2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
 - 255. (R)-2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
 - 256. (S)-2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide

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- 257. 2-(acetylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
- 258. (R,S)-2-(methoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
- 15 259. (R)-2-(methoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
 - 260. (S)-2-(methoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
 - 261. 3,3,3-trifluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxy-2-phenylpropanamide
 - 262. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(1-naphthyl)acetamide
 - 263. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-naphthyl)acetamide
- 25 264. 2-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 265. 2-(1,3-benzodioxol-4-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 266. 2-(2,4-dinitrophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 267. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-methyl-1H-indol-3-yl)acetamide
 - 268. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(1-methyl-1H-indol-3-yl)acetamide
- 35 269. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(5-methoxy-1H-indol-3-yl)acetamide
 - 270. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(5-benzyloxy-1H-indol-3-yl)acetamide

- 271. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-methoxy-2-methyl-1H-indol-3-yl)acetamide
- 272. 2-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-oxoacetamide
- 5 273. 2-(5-bromo-1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 274. 2-(5-fluoro-1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 275. 2-[1-(4-chlorobenzoyl)-5-methoxy-2-methyl-1H-indol-3-yl]-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 276. 3-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 277. 4-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)butanamide
- 15 278. N-(5-isopropyl-1,3-thiazol-2-yl)-3-(2-thienyl)propanamide

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- 279. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-thienyl)acetamide
- 280. N-(5-isopropyl-1,3-thiazol-2-yl)-2-oxo-2-(2-thienyl)acetamide
 - 281. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-thienyl)acetamide
 - 282. 2-(5-chloro-1-benzothiophen-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 25 283. 2-(1-benzothiophen-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 284. 2-[2-(formylamino)-1,3-thiazol-4-yl]-N-(5-isopropyl-1,3-thiazol-2-yl)-2-(methoxyimino)acetamide
 - 285. 2-{2-[(2-chloroacetyl)amino]-1,3-thiazol-4-yl}-N-(5-isopropyl-1,3-thiazol-2-yl)-2-(methoxyimino)acetamide
 - 286. 2-chloro-N-(4-{2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethyl}-1,3-thiazol-2-yl)acetamide
 - 287. ethyl 2-({[2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-(1H-pyrazol-3-yl)ethylidene]amino}oxy)acetate
- 35 288. 2-(2-furyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-oxoacetamide
 - 289. 2-(5-bromo-3-pyridinyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide

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- 290. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(7-methoxy-2-oxo-2H-chromen-4-yl)acetamide
- 291. N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenyl-3-butenamide
- 292. N-(5-isopropyl-1,3-thiazol-2-yl)-4-oxo-4-(4-methyl-phenyl)butanamide
- 293. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(4-nitrophenyl)butanamide
- 294. N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenylbutanamide
- 295. benzyl 4-[(5-isopropyl-1,3-thiazol-2-yl)amino]-4-oxobutylcarbamate
- 296. methyl 5-[(5-isopropyl-1,3-thiazol-2-yl)amino]-5-oxopentanoate
- 297. 4-(1,3-dioxo-1,3-dihydro-2H-isoindol-2-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)butanamide
- 15 298. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(4-methoxy-1-naphthyl)-4-oxobutanamide
 - 299. 3-(2-chlorophenoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 300. 3-(4-methylphenoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 301. 3-cyclopentyl-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 302. 3-cyclohexyl-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
- 25 303. N-(5-isopropyl-1,3-thiazol-2-yl)-4-methylpentanamide
 - 304. 3-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 305. 3-(4-methoxyphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
- 30 306. 3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 307. 3-phenyl-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 308. 2-cyclohexyl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 309. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methylbutanamide
 - 310. N-(5-isopropyl-1,3-thiazol-2-yl)-5-oxo-5-
- 35 phenylpentanamide
 - 311. 2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-phenylethyl acetate

- 312. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[4-(1-oxo-1,3-dihydro-2H-isoindol-2-yl)phenyl]propanamide
- 313. 1-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)cyclopentanecarboxamide
- 5 314. 1-phenyl-N-(5-isopropyl-1,3-thiazol-2-yl)cyclopentanecarboxamide

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- 315. 2-(3-bromo-4-methoxyphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 316. 2-(2-nitro-4-trifluoromethylphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 317. 5-cyclohexyl 1-(4-{2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethyl}benzyl) (2S)-2-[(tert-butoxycarbonyl)amino]pentanedioate
- 318. 2-(5,6-dimethyl-1H-benzimidazol-1-yl)-N-(5-isopropyl-15 1,3-thiazol-2-yl)acetamide
 - 319. 2-[5-(4-chlorophenyl)-2H-1,2,3,4-tetraazol-2-yl]-N-(5-isopropyl-1,3-thiazol-2-yl) acetamide
 - 320. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[5-(1-pyrrolidinyl)-2H-1,2,3,4-tetraazol-2-yl]acetamide
- 20 321. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-methyl-1-benzothiophen-2-yl)acetamide
 - 322. N-(5-isopropyl-1,3-thiazol-2-yl)-4,4-bis(4-methylphenyl)-3-butenamide
 - 323. 2-cyclopropyl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 324. N-{4-bromo-6-[(5-isopropyl-1,3-thiazol-2-yl)amino]-6-oxohexyl}benzamide
 - 325. 2-cyclopentyl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 30 326. benzyl 6-[(5-isopropyl-1,3-thiazol-2-yl)amino]-6-oxohexylcarbamate
 - 327. N~1~-(5-isopropyl-1,3-thiazol-2-yl)-N~4~-(2-propynyl)-2-butenediamide
 - 328. 4-(2,4-dimethylphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-4-oxobutanamide
 - 329. 4-(4-benzyloxyphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-4-oxobutanamide

- 330. 4-(thiphen-2-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)-4-oxobutanamide
- 331. benzyl 2-{[(benzyloxy)carbonyl]amino}-5-[(5-isopropyl-1,3-thiazol-2-yl)amino]-5-oxopentanoate
- 5 332. 4-(1H-indol-3-yl)-N-{3-[(5-isopropyl-1,3-thiazol-2-yl)amino]-3-oxopropyl}butanamide
 - 333. 4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}phenyl 4-chlorobenzenesulfonate
 - 334. N-(5-isopropyl-1,3-thiazol-2-yl)-4-{[(2-
- 10 methoxyanilino)carbonyl]amino}benzamide
 - 335. 4-{[2-(isopropylsulfonyl)acetyl]amino}-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 336. N-(5-isopropyl-1,3-thiazol-2-yl)-4-{[2-(phenylsulfanyl)acetyl]amino}benzamide
- 15 337. 4-[(diethylamino)sulfonyl]-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 338. 2-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 339. 3,5-difluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 340. 3-{[(2-fluoroanilino)carbonyl]amino}-N-(5-isopropyl-20 1,3-thiazol-2-yl)benzamide
 - 341. N-(5-isopropyl-1,3-thiazol-2-yl)-1-phenyl-5-propyl-1H-pyrazole-4-carboxamide
 - 342. 3-chloro-4-(isopropylsulfonyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-5-(methylsulfanyl)-2-
- 25 thiophenecarboxamide

- 343. 3-iodo-4-(isopropylsulfonyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-5-(methylsulfanyl)-2-thiophenecarboxamide
- 344. 2-{[(4-chlorophenyl)sulfonyl]methyl}-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methyl-1,3-thiazole-5-carboxamide
- 345. 5-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-(trifluoromethyl)-3-furamide
- 346. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,3,4,5,6-pentafluorophenyl)acetamide
- 35 347. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-fluorophenyl)acetamide
 - 348. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-bromophenyl)acetamide

- 349. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-chlorophenyl)acetamide
- 350. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-nitrophenyl)acetamide
- 5 351. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-trifluoromethylphenyl)acetamide

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- 352. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-methoxyphenyl)acetamide
- 353. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,5-dimethoxyphenyl)acetamide
- 354. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,5-difluorophenyl)acetamide
- 355. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4,5-trimethoxyphenyl)acetamide
- 15 356. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,6-dichlorophenyl)acetamide
 - 357. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-chloro-6-fluorophenyl)acetamide
- 358. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,5-20 dimethoxyphenyl)acetamide
 - 359. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,5-difluorophenyl)acetamide
 - 360. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,5-bis-trifluoromethylphenyl)acetamide
- 25 361. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-methylthiophenyl)acetamide
 - 362. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-methoxyphenyl)acetamide
 - 363. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-bromophenyl)acetamide
 - 364. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-chlorophenyl)acetamide
 - 365. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-fluorophenyl)acetamide
- 35 366. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-nitrophenyl)acetamide
 - 367. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-trifluoromethylphenyl)acetamide

- 368. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-methylphenyl)acetamide
- 369. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-dimethylaminophenyl)acetamide
- 5 370. 2-[1,1'-biphenyl]-4-yl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 371. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-trifluoromethylphenyl)acetamide
 - 372. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-
- 10 bromophenyl)acetamide

- 373. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-chlorophenyl)acetamide
- 374. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-nitrophenyl)acetamide
- 15 375. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-methoxyphenyl)acetamide
 - 376. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,4-dinitrophenyl)acetamide
 - 377. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,4-dichlorophenyl)acetamide
 - 378. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,4-difluorophenyl)acetamide
 - 379. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-benzyloxy-3-methoxyphenyl)acetamide
- 25 380. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4-dichlorophenyl)acetamide
 - 381. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4-difluorophenyl)acetamide
 - 382. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4-
- dimethoxyphenyl)acetamide
 - 383. 2-(2,3-dihydro-1H-inden-5-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 384. N-(5-isopropyl-1,3-thiazol-2-yl)-1-phenylcyclopropanecarboxamide
- 35 385. 2-cyclopentyl-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
 - 386. 2-cyclohexyl-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide

- 387. N-(5-isopropyl-1,3-thiazol-2-yl)- 2,2-diphenylacetamide
- 388. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-nitrophenoxy) acetamide
- 5 389. N-(5-isopropy1-1,3-thiazol-2-y1)-2-(4-nitrophenyl)propanamide
 - 390. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl)propanamide
 - 391. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-isobutylphenyl)propanamide
- 10 392. N-(5-isopropyl-1,3-thiazol-2-yl)-2-oxo-2-phenylacetamide
 - 393. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methyl-2-phenylpentanamide
- 394. (E, Z)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-2butenamide
 - 395. N-(5-isopropyl-1,3-thiazol-2-yl)bicyclo[4.2.0]octa-1,3,5-triene-7-carboxamide
 - 396. N-(5-isopropyl-1,3-thiazol-2-yl)-3-oxo-1-indanecarboxamide
- 397. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl)butanamide
 - 398. tert-butyl (1S)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-1-methyl-2-oxoethylcarbamate
 - 399. tert-butyl (1S,2S)-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-methylbutylcarbamate
- 25 400. tert-butyl 2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate
 - 401. tert-butyl (1S)-5-amino-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}pentylcarbamate
 - 402. tert-butyl 4-[(imino{[(4-
- 30 methylphenyl)sulfonyl]amino}methyl)amino]-1-{[(5isopropyl-1,3-thiazol-2yl)amino]carbonyl}butylcarbamate
 - 403. tert-butyl 1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-3-(tritylamino)propylcarbamate
- 35 404. tert-butyl (1S)-1-(benzyloxymethyl)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate
 - 405. tert-butyl (1S)-1-benzyl-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate

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406. tert-butyl (1R)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-(benzylthiomethyl)ethylcarbamate

- 407. benzyl (3S)-3-[(tert-butoxycarbonyl)amino]-4-[(5-isopropyl-1,3-thiazol-2-yl)amino]-4-oxobutanoate
- 5 408. tert-butyl (2S)-2-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-1-pyrrolidinecarboxylate
 - 409. tert-butyl (1S)-1-(1H-indol-3-ylmethyl)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate
 - 410. tert-butyl (1S)-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-3-(methylsulfanyl)propylcarbamate
 - 411. tert-butyl (1S)-2-benzyloxy-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}propylcarbamate
 - 412. tert-butyl (1S)-1-(4-benzyloxybenzyl)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate
- 15 413. tert-butyl (1S)-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-methylpropylcarbamate
 - 414. tert-butyl (1S)-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-3-methylbutylcarbamate
- 415. benzyl (4S)-4-[(tert-butoxycarbonyl)amino]-5-[(5-isopropyl-1,3-thiazol-2-yl)amino]-5-oxopentanoate; and the pharmaceutically acceptable salts thereof.

The compounds of formula (I) object of the present invention and the salts thereof can be obtained, for 25 instance, by a process comprising reacting a compound of formula (II)

$$R = N$$
 NH₂ (II)

with a compound of formula (III)

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wherein R and R_1 are as defined above and X is hydroxy or a suitable leaving group; and, if desired, converting a 2-amino-1,3-thiazole derivative of formula (I) into another such derivative of formula (I), and/or into a salt thereof.

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Examples of specific compounds of formula (III) wherein X is a suitable leaving group are those wherein X represents a halogen atom, preferably chlorine or bromine.

5 It is clear to the man skilled in the art that if compound of formula (I), prepared according to the above process is obtained as an admixture of isomers, its separation into the single isomers according conventional techniques is still within the scope of the 10 present invention.

Likewise, the conversion into the free compound (I) of a corresponding salt thereof, according to well-known procedures in the art, is still within the scope of the invention.

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The above process is an analogy process which can be carried out according to well known methods.

The reaction between a compound of formula (II) carboxylic acid of formula (III) wherein X is a hydroxy group, can be carried out in the presence of a coupling agent or a polymer supported coupling agent such as, for instance, carbodiimide, i.e. 1,3-dicyclohexylcarbodiimide, 1,3-diisopropylcarbodiimide, 1-(3-dimethylaminopropyl)-3ethylcarbodiimide. or N-Cyclohexylcarbodiimide N'methylpolystyrene in а suitable solvent such for dichloromethane, instance, chloroform, tetrahydrofuran, diethyl ether, 1,4-dioxane, acetonitrile, toluene, or N,N-

dimethylformamide at a temperature ranging from about $-10\,^{\circ}\text{C}$ to reflux for a suitable time, i.e. from about 30 min. to

30 about 96 hours.

The reaction between a compound of formula (II) and a compound of formula (III) can be also carried out, for example, by a mixed anhydride method, using an alkyl chloroformate, such as ethyl, iso-butyl, or iso-propyl chloroformate, in the presence of a tertiary base, such as triethylamine, N,N-diisopropylethylamine or pyridine, in a suitable solvent such as, for instance, toluene, dichloromethane, chloroform, tetrahydrofuran, acetonitrile,

diethyl ether, 1,4-dioxane, or N,N-dimethylformamide, at a temperature ranging from about -30°C to room temperature.

The reaction between a compound of formula (II) carboxylic acid derivative of formula (III) wherein X is a suitable leaving group can be carried out in the presence tertiary base, such as triethylamine, diisopropylethylamine or pyridine, in a suitable solvent, toluene, dichloromethane, chloroform, ether, tetrahydrofuran, acetonitrile, orN, Ndimethylformamide, at a temperature ranging from about -10°C to reflux.

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Also the optional conversion of a compound of formula (I) into another compound of formula (I) can be carried out according to known methods.

As an example, the nitro group of a compound of formula (I) may be converted into an amino group by treatment, example, stannous with chloride in concentrated hydrochloric acid and by using, if necessary, an organic solvent such as acetic acid, 1,4-dioxane tetrahydrofuran, at a temperature varying between temperature and about 100°C.

Likewise, an alkylthio or an arylthio group converted into the corresponding alkylsulfonyl and arylsulfonyl group by reaction, for example, mchloroperbenzoic acid in a suitable solvent such as dichloromethane or chloroform, at a temperature varying between about -5°C and room temperature.

The optional salification of a compound of formula (I) or the conversion of a salt into the free compound as well as the separation of a mixture of isomers into the single isomers may be carried out by conventional methods.

The compounds of formula (II) and (III) according to the process object of the present invention are known compounds or can be obtained according to known methods.

For example, a compound of formula (II) wherein R is as defined above can be obtained by reacting a compound of formula (IV)

- wherein Z is a bromine or chlorine atom, with thiourea in a suitable solvent such as methanol, ethanol, tetrahydrofuran, 1,4-dioxane or toluene, at a temperature varying between room temperature and reflux, for a suitable time ranging from about 1 hour to about 24 hours.
- 10 A compound of formula (III) wherein X is a leaving group as defined above can be obtained according to conventional techniques from the corresponding carboxylic acids of formula (III) wherein X is hydroxy.
- When preparing the compounds of formula (I) according to the process object of the present invention, optional functional groups within both the starting materials or the intermediates thereof, which could give rise to unwanted side reactions, need to be properly protected according to conventional techniques.
- 20 Likewise, the conversion of these latter into the free deprotected compounds may be carried out according to known procedures.

Pharmacology

- The compounds of formula (I) are active as cdk/cyclin inhibitors as they gave positive results when tested according to the following procedure.
- The inhibiting activity of putative cdk/cyclin inhibitors and the potency of selected compounds was determined through a method of assay based on the use of the MultiScreen-PH 96 well plate (Millipore), in which a phosphocellulose filter paper was placed at each well bottom allowing binding of positive charged substrate after a washing/filtration step.

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When a radioactivity labelled phosphate moiety was transferred by the ser/threo kinase to the filter-bound histone, light emitted was measured in a scintillation counter.

5 The inhibition assay of cdk2/Cyclin A activity was performed according to the following protocol:

Kinase reaction: 1.5 μM histone H1 substrate, 25 μM ATP $(0.5 \, \mu\text{Ci} \, P^{33}\gamma\text{-ATP})$, 30 ng Cyclin A/cdk2 complex, 10 μM inhibitor in a final volume of 100 μl buffer (TRIS HCl 10 mM pH 7.5, MgCl₂ 10 mM, 7.5 mM DTT) were added to each well of a 96 U bottom well plate. After 10 min at 37 °C incubation, reaction was stopped by 20 μl EDTA 120 mM.

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Capture: 100 μ l were transferred from each well to MultiScreen plate, to allow substrate binding to phosphocellulose filter. Plates were then washed 3 times with 150 μ l/well PBS Ca⁺⁺/Mg⁺⁺ free and filtered by MultiScreen filtration system.

Detection: filters were allowed to dry at 37°C, then 100 μ l/well scintillant were added and ^{33}P labelled histone H1 was detected by radioactivity counting in the Top-Count instrument.

Results: data were analysed and expressed as % inhibition referred to total activity of enzyme (=100%).

All compounds showing inhibition ≥ 50 % were further analysed in order to study and define potency (IC50) as well as the kinetic-profile of inhibitor through Ki calculation.

<u>IC50 determination</u>: the protocol used was the same described above, where inhibitors were tested at concentrations ranging from 0.0045 to 10 μ M. Experimental data were analyzed by the computer program GraphPad Prizm.

Ki calculation: either the concentration of ATP and histone H1 substrate were varied: 4, 8, 12, 24, 48 μM for ATP (containing proportionally diluted P³³ γ -ATP) and 0.4, 0.8,

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1.2, 2.4, 4.8 μM for histone were used in absence and presence of two different, properly chosen inhibitor concentrations.

Experimental data were analysed by the computer program SigmaPlot for Ki determination, using a random bireactant system equation:

10 Vmax (A)(B) $aK_{A}K_{B}$

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v = -----

$$1+ (A) + (B) + (A) (B)$$

$$K_{A} K_{B} aK_{A}K_{B}$$

15 where A=ATP and B=histone H1.

Following the method above described, a representative compound of formula (I) of the invention, which is 2-[4-(dimethylamino)phenyl]-N-(5-isopropyl-1,3-thiazol-2-)

yl)acetamide, showed an inhibiting activity towards the cdk2/cyclin A complex corresponding to 0.1 μM (Ki).

In addition, the inhibiting activity of putative cdk/cyclin inhibitors and the potency of selected compounds was determined through a method of assay based on the use of a SPA (Scintillation Proximity Assay) 96 well plate assay. The assay is based on the ability of streptavidin coated SPA beads to capture a biotinylated peptide derived from a phosphorylation site of histone.

When a radioactivity labelled phosphate moiety was transferred by the ser/threo kinase to the biotinylated histone peptide, light emitted was measured in a scintillation counter.

The inhibition assay of cdk5/p25 activity was performed according to the following protocol:

Kinase reaction: 1.0 μ M biotinylated histone peptide substrate, 0.25 uCi P33g-ATP, 4 nM cdk2/p25 complex, 0-100 μ M inhibitor in a final volume of 100 μ l buffer (Hepes 20 mM pH 7.5, MgCl2 15 mM, 1 mM DTT) were added to each well of a 96 U bottom well plate. After 20 min at 37 °C incubation, the reaction was stopped by the addition of 500 ug SPA beads in phosphate-buffered saline containing 0.1% Triton X-100, 50 uM ATP and 5 mM EDTA. The beads were allowed to settle, and the radioactivity incorporated in the 33P-labelled peptide was detected in a Top Count scintillation counter.

Results: Data were analyzed and expressed as % Inhibition using the formula:

15 100X(1 - (Unknown - Bkgd)/(Enz. Control - Bkgd))

IC50 values were calculated using a variation of the four parameter logistics equation:

$$Y = 100/[1 + 10 ^((LogEC50 - X)*Slope)]$$

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Where X = log(uM) and Y = % Inhibition.

The compounds of formula (I) are therefore useful to restrict the unregulated proliferation of tumor cells, hence in therapy in the treatment of various tumors such as, for instance, carcinomas, e.g. mammary carcinoma, lung carcinoma, bladder carcinoma, colon carcinoma, ovary and endometrial tumors, sarcomas, e.g. soft tissue and bone sarcomas, and the hematological malignancies such as, e.g., leukemias.

In addition, the compounds of formula (I) are also useful in the treatment of other cell proliferative disorders such as psoriasis, vascular smooth cell proliferation associated with atherosclerosis and post-surgical stenosis and restenosis and in the treatment of Alzheimer's disease.

The compounds of the present invention can be administered either as single agents or, alternatively, in combination with known anticancer treatments such as radiation therapy or chemotherapy regimen in combination with cytostatic or cytotoxic agents.

As an example, the above compounds can be administered in combination with one or more chemotherapeutic agents such instance, taxane, taxane derivatives, CPT-11, camptothecin derivatives, anthracycline glycosides, doxorubicin orepirubicin, etoposide, navelbine, vinblastine, carboplatin, cisplatin and the optionally within liposomal formulations thereof.

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The compounds of formula (I) of the present invention, suitable for administration to a mammal, e.g. to humans, can be administered by the usual routes and the dosage level depends upon the age, weight, conditions of the patient and the administration route.

example, a suitable dosage adopted for 20 administration of a compound of formula (I) may range from about 10 to about 500 mg pro dose, from 1 to 5 times daily. The compounds of the invention can be administered in a variety of dosage forms, e.g. orally, in the form of tablets, capsules, sugar or film coated tablets, liquid 25 solutions or suspensions; rectally in the form suppositories; parenterally, e.g. intramuscularly, or by intravenous and/or intrathecal and/or intraspinal injection or infusion.

- The present invention also includes pharmaceutical compositions comprising a compound of formula (I), or a pharmaceutically acceptable salt thereof, in association with a pharmaceutically acceptable excipient (which can be a carrier or a diluent).
- The pharmaceutical compositions containing the compounds of the invention are usually prepared following conventional methods and are administered in a pharmaceutically suitable form.

For example, the solid oral forms may contain, together with the active compound, diluents, e.g. lactose, dextrose, saccharose, sucrose, cellulose, corn starch or starch; lubricants, e.g. silica, talc, stearic acid, 5 magnesium or calcium stearate, and/or polyethylene glycols; agents, e.g. starches, arabic gum, gelatine, methylcellulose, carboxymethylcellulose or polyvinyl pyrrolidone; disaggregating agents, e.g. a starch, alginic acid, alginates or sodium starch glycolate; effervescing 10 mixtures; dyestuffs; sweeteners; wetting agents such as lecithin, polysorbates, laurylsulphates; and, in general, non-toxic and pharmacologically inactive substances used in pharmaceutical formulations. Said pharmaceutical preparations may be manufactured in known manner, 15 example, by means of mixing, granulating, tabletting, sugar-coating, or film-coating processes.

The liquid dispersions for oral administration may be e.g. syrups, emulsions and suspensions.

The syrups may contain as carrier, for example, saccharose or saccharose with glycerine and/or mannitol and/or sorbitol.

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The suspensions and the emulsions may contain as carrier, for example, a natural gum, agar, sodium alginate, pectin, methylcellulose, carboxymethylcellulose, or polyvinyl alcohol.

The suspension or solutions for intramuscular injections contain, together with the active compound, pharmaceutically acceptable carrier, e.g. sterile water, olive oil, ethyl oleate, glycols, e.g. propylene glycol, and, if desired, suitable a amount of hydrochloride. The solutions for intravenous injections or infusions may contain as carrier, for example, sterile water or preferably they may be in the form of sterile, aqueous, isotonic saline solutions or they may contain as a carrier propylene glycol.

The suppositories may contain together with the active compound a pharmaceutically acceptable carrier, e.g. cocoa

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butter, polyethylene glycol, a polyoxyethylene sorbitan fatty acid ester surfactant or lecithin.

The following examples illustrate but do not limit the present invention.

Example 1

Preparation of Ethyl 3-[(5-bromo-1,3-thiazol-2-yl)amino]-3-oxopropanoate

- 10 Ethyl malonyl chloride (0.88 ml; 6.99 mmol) was added to a mixture of 2-amino-5-bromothiazole hydrobromide (1.30 g; 5.00 mmol) and Et3N (2.08 ml; 14.94 mmol) in THF (6 ml) at 0-5°C. The mixture was stirred at room temperature overnight, then the reaction was quenched with potassium
- 15 sarcosinate (0.25 g; 2.00 mmol) and water (12 ml). The product was isolated by filtration as a white solid (0.75 g, 51%): m.p.165-166°C.

 1 H-NMR (CDCl $_{3}$) δ ppm: 10.80 (bs, 1H, CONH); 7.38 (s, 1H, thiazole CH); 4.28 (q, J = 7.3 Hz, 2H, COOCH2CH3); 3.56 (s,

20 2H, COCH2CO); 1.32 (t, J = 7.3 Hz, 2H, COOCH2CH3).

Analogously, the following products can be prepared:

N-(5-bromo-1,3-thiazol-2-yl)-2-phenyl-acetamide

m.p. 206-207°C

 1 H.NMR (DMSO- d_{6}) δ ppm: 3.76 (s, 2H, COCH2Ph); 7.2-7.3 (m,

25 5H, Ph); 7.54 (s, 1H, thiazole CH); 12.80 (bs, 1H, CONH); N-(5-bromo-1,3-thiazol-2-yl)-benzamide m.p. 126-128°C

 1 H-NMR (DMSO-d₆) δ ppm: 12.90 (bs, 1H, CONH); 8.07, 7.93 (m, 2H, o-Ph hydrogens); 7.63 (s,1H, thiazole CH); 7.62, 7.53,

30 7.48 (m, 3H, m- and p-Ph hydrogens); Ethyl 4-[(5-bromo-1,3-thiazol-2-yl)amino]-4-oxobutanoate.

Example 2

Preparation of N-(5-Bromo-thiazo1-2-y1)-3-hydroxy-

35 **propionamide**

A mixture of LiBH4 (44 mg, 2.02 mmol), ethyl 3-[(5-bromo-1,3-thiazol-2-yl)amino]-3-oxopropanoate (340 mg, 1.16 mmol), methanol (0.082 ml, 2.02 mmol), and Et2O (50 ml) was refluxed for 20 min. The reaction was quenched with 1 N hydrochloric acid with ice-cooling.

The mixture was then diluted with water and extracted with dichloromethane. The extract was dried and the solvent was evaporated under reduced pressure. Purification by silica gel chromatography (dichloromethane/methanol=98:2 and then 95:5) yielded the title compound as a white solid (0.17 g;

m.p. 182-184°C (dec.)

¹H-NMR (CDCl₃) δ ppm: 10.20 (bs, 1H, CONH); 7.35 (s, 1H, thiazole CH); 4.04 (t, J = 5.4 Hz, 2H, COCH2CH2OH); 2.74 (t, J = 5.4 Hz, 2H, COCH2CH2OH).

Analogously, starting from the corresponding ester derivative the following product can be prepared:
N-(5-Bromo-1,3-thiazol-2-yl)-4-hydroxybutanamide.

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52%).

Example 3

Preparation of N-(5-Bromo-thiazo1-2-y1)-2-ethoxy-acetamide

EDCI (0.53 g, 2.78 mmol) was added to a solution of ethoxyacetic acid (0.29 g, 2.78 mmol) in CH2Cl2 (5 ml) under ice-cooling.

After stirring for 1 h. a solution of 2-amino-5bromothiazole hydrobromide (0.60 2.31 q, mmol) diisopropylethylamine (0.40 ml, 2.34 mmol) in CH2Cl2 (5 ml) was added dropwise, and the entire mixture was kept at 0°C for 1 h, then at room temperature overnight.

- The solution was evaporated and the residue partitioned between ethyl acetate and water. The ethyl acetate layer was further washed with water, 5% citric acid, water, saturated sodium bicarbonate, and water.
- Drying over sodium sulfate and evaporation gave a solid which was triturated with isopropyl ether to give the title compound as a beige solid (0.43 g; 70%)

m.p. 100-102°C

¹H-NMR (CDCl₃) δ ppm: 9.64 (bs, 1H, CONH); 7.38 (s, 1H, thiazole CH); 4.16 (s, 2H, COCH2O); 3.65 (q, J = 6.8 Hz, 2H, OCH2CH3); 1.29 (t, J = 6.8 Hz, 3H, OCH2CH3).

Analogously, the following products can be prepared:
tert-butyl 3-[(5-bromo-1,3-thiazol-2-yl)amino]-3oxopropylcarbamate;

Benzyl 4-[(5-bromo-1,3-thiazol-2-yl)amino]-4-oxobutylcarbamate;

- oxoethyl}-1,3-thiazol-2-ylcarbamate;
 N-(5-bromo-1,3-thiazol-2-yl)-2-bromoacetamide;
 N-(5-isopropyl-1,3-thiazol-2-yl)-2-bromoacetamide;
 2-N-[2-(3-pyridyl)-acetyl-amino]-5-bromo-thiazole
 m.p. 232-235°C
- 25 2-N-[2-(3-pyridy1)-acety1-amino]-5-isopropy1-thiazole m.p. 178-180°C (dec.) $^{1}\text{H-NMR} \text{ (DMSO-d}_{6}) \delta \text{ ppm: } 12.20 \text{ (bs, 1H, CONH); 8.45, 7.7, 7.35}$ (m, 4H, Py); 7.17 (s, 1H, thiazole CH); 3.78 (s, 2H, COCH2); 3.14 (m, 1H, $\text{CH}(\text{Me})_{2}$); 1.22 (d, 6H, $\text{CH}(\text{Me}_{2})$;
- N-(5-bromo-1,3-thiazol-2-yl)-2-(3-hydroxyphenyl)acetamide;
 N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-hydroxyphenyl)acetamide
 hydroxyphenyl)acetamide
 m.p. 206-208°C.
 - $^{1}\text{H-NMR}$ (DMSO- $d_{_{6}}$) δ ppm: 12.1 (bs, 1H, CONH); 9.34 (s, 1H,
- 35 OH); 7.14 (s, 1H, thiazole CH); 7.1 (t, 1H, H5 Ph); 6.6-6.7

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(m, 3H, H2, H4, H6 Ph); 3.6 (s, 2H, COCH<sub>2</sub>); 3.08 (ept, 1H,
C_{\underline{H}Me_3}); 1.22 (d, 6H, C_{\underline{H}Me_3});
N-(5-bromo-1,3-thiazol-2-yl)-2-(3-methoxyphenyl)acetamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-isopropyl-1,3-thiazol-2-yl)
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- methoxyphenyl)acetamide m.p. 97-98°C.
 - 1 H-NMR (DMSO-d,) δ ppm: 12.12 (s, 1H, CONH); 7.21 (dd, 1H, H5 Ph); 7.14 (d, 1H, thiazole CH); 6.87 (m, 2H, H2, H6 Ph); 6.81 (ddd, 1H, H4 Ph); 3.72 (s, 3H, OMe); 3.67 (s, 2H,
- 10 $COCH_2$); 3.07 (m, 1H, $C\underline{H}Me_2$); 1.22 (d, 6H, $CH\underline{M}e_2$); N-(5-bromo-1,3-thiazol-2-yl)-2-(3-chorophenyl) acetamide; N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-chorophenyl)acetamide m.p. 116-118°C.

 $^{1}\text{H-NMR}$ (CDCl $_{3}$) δ ppm: 11.8 (bs, 1H, CONH); 7.32 (s, 1H, H2

- Ph); 7.24 (m, 3H, H4, H5, H6 Ph); 7.04 (s, 1H, thiazole 15 CH); 3.76 (s, 2H, COCH₂); 3.13 (m, 1H, $C\underline{H}Me_2$); 1.31 (d, 6H, $CHMe_3$);
 - N-(5-bromo-1,3-thiazol-2-yl)-2-(4-hydroxyphenyl) acetamide; N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-isopropyl-1, 3-thiazol-2-yl)
- 20 hydroxyphenyl) acetamide 1 H-NMR (DMSO- d_{6}) δ ppm: 12.07 (bs, 1H, CONH); 9.33 (sb, 1H, OH); 7.17-6.7 (m, 5H, Ar+ CHthiazole); 3.60 (s, 2H, COCH₂); $3.1 \text{ (m, 1H, CHMe}_2); 1.23 \text{ (d, 6H, CHMe}_2);$ N-(5-bromo-1,3-thiazol-2-yl)-2-(3,4-
- 25 dihydroxyphenyl)acetamide; N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(3, 4-isopropyl-1, 3-thiazol-2-yl)dihydroxyphenyl) acetamide m.p. 168-169°C.
- 1 H-NMR (DMSO- d_{ϵ}) δ ppm: 12.01 (bs, 1H, CONH); 8.79 (sb, 2H, 2 30 OH); 7.12 (s, 1H, thiazole CH); 6.69 (d, 1H, H2 Ph); 6.63 (d, 1H, H5 Ph); 6.52 (dd, 1H, H6 Ph); 3.48 (s, 2H, COCH₂); 3.06 (m, 1H, $C\underline{H}Me_2$); 1.22 (d, 6H, $C\underline{H}\underline{M}\underline{e}_2$); N-(5-bromo-1,3-thiazol-2-yl)-2-(4-hydroxy-3
 - methoxyphenyl)acetamide; N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-hydroxy-3-isopropyl-1, 3-thiazol-2-yl)
- 35 methoxyphenyl) acetamide m.p. 115-116°C.

- ¹H-NMR (DMSO- d_6) δ ppm: 12.0 (bs, 1H, CONH); 8.80 (s, 1H, OH); 7.12 (d, 1H, thiazole CH); 6.88 (s, 1H, H2 Ph); 6.68 (m, 2H, H5, H6 Ph); 3.73 (s, 3H, OMe); 3.56 (s, 2H, COCH₂); 3.07 (m, 1H, CHMe₂); 1.22 (d, 6H, CHMe₂);
- N-(5-bromo-1,3-thiazol-2-yl)-2-(4-methoxyphenyl)acetamide; N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-methoxyphenyl)acetamide m.p. 129-130°C.

- 20 m.p. 91-92°C 1 H-NMR (DMSO-d₆) δ ppm: 12.08 (bs, 1H, CONH); 7.21 (t, 1H, H5 Ph); 7.13 (s, 1H, thiazole CH); 6.8-6.9 (m, 3H, H2, H4, H6 Ph); 4.05 (t, 2H, OCH₂CH₂CH₂Cl); 3.77 (t, 2H, OCH₂CH₂CH); 3.67 (s, 2H, COCH₂); 3.07 (ept, 1H, CHMe₂); 2.14 (quint, 2H,
- OCH₂CH₂CH₂Cl); 1.22 (d, 6H, CH<u>Me</u>₂); and 2-[3-(2-chloroethoxy)phenyl]-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide m.p. 134-135°C

¹H-NMR (DMSO-d₆) δ ppm: 12.09 (bs, 1H, CONH); 7.22 (t, 1H, H5 30 Ph); 7.13 (s, 1H, thiazole CH); 6.8-6.9 (m, 3H, H2, H4, H6 Ph); 4.2 (t, 2H, OC $\underline{\text{H}}_2$ CH $_2$ Cl); 3.91 (t, 2H, OC $\underline{\text{H}}_2$ Cl); 3.67 (s, 2H, COCH $_2$); 3.07 (ept, 1H, C $\underline{\text{HMe}}_2$); 1.22 (d, 6H, CH $\underline{\text{Me}}_2$).

Example 4

Preparation of N-(5-bromo-thiazol-2-yl)-4-sulfamoyl-benzamide.

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To a mixture of 4-sulfamoylbenzoic acid (1.0 g, 4.97 mmol), Et3N (1.5 ml, 10.78 mmol), DMF (5 ml) and THF (5 ml) isobutyl choroformate (0.70 ml, 5.36 mmol) was added dropwise at -10° C.

- 5 After stirring for 1 h, a solution of 2-amino-5-bromothiazole hydrobromide (1,55 g, 5.96 mmol) and Et3N (0.83 ml, 5.96 mmol) in DMF (6 ml) and THF (4 ml) was added dropwise to the mixture at the same temperature.
- The resulting mixture was gradually warmed to room temperature over a period of 3 h and then concentrated by evaporation of the solvent in vacuo. To the resultant residue AcOEt and 5% aqueous NaHCO3 were added. The separated organic phase was washed with water, dried over anhydrous Na2SO4, and concentrated under reduced pressure.
- The residual solid was purified by flash cromatography (dichloromethane/methanol/30% aqueous ammonia=95:5:0.5) to afford the title compound as a yellow solid (0.77 g, 43%) m.p. 268-270°C
- ¹H-NMR (DMSO-d₆) δ ppm: 7.54 (s, 2H, SO2NH2); 7.67 (s, 1H,
 20 thiazole CH); 7.94 (d, J=8.8 Hz, 2H, H3 and H5 Ph); 8.21
 (d, J=8.8 Hz, 2H, H2 and H6 Ph); 13.10 (bs, 1H, CONH).
 Analogously, the following product can be prepared:
 N-(5-isopropyl-thiazol-2-yl)-4-sulfamoyl-benzamide
 m.p. 222-224°C.
- ¹H-NMR (DMSO-d₆) δ ppm: 12.65 (bs, 1H, CONH); 8.18 (dd, 2H, H2, H6 Ph); 7.92 (dd, 2H, H3, H5 Ph); 7.51 (s, 2H, SO₂NH₂); 7.25 (s, 1H, thiazole CH); 3.13 (m, 1H, CHMe₂); 1.28 (d, 6H, CHMe₂).

30 Example 5

<u>Preparation</u> of 4-amino-N-(5-bromo-1,3-thiazol-2-yl)butanamide hydrobromide

A solution (1.3 ml) of hydrogen bromide in glacial acetic acid (33%) was added to benzyl 4-[(5-bromo-1,3-thiazol-2-

35 yl)amino]-3-oxobutylcarbamate (0.72 g, 1.81 mmol) and the mixture was stirred at room temperature for 1 h.

Ether was added and the solid was filtered and washed with ether. The crude product was recrystallized from MeOH/ether to afford the title compound as a beige solid (0.38 g, 61%), m.p. 211-213°C (dec.)

5 1 H-NMR (DMSO-d₆) δ ppm: 1.84 (m, 2H, COCH2CH2CH2NH2); 2.53 (t, J=6.8 Hz, 2H, COCH2CH2CH2NH2); 2.81 (m, 2H, COCH2CH2CH2NH2); 7.68 (bs, 3H, NH3+); 12.42 (s, 1H, CONH).

Example 6

Preparation of 3-amino-N-(5-bromo-1,3-thiazol-2-yl)propionamide hydrochloride

A solution 3.6 N HCl in isopropanol (14 ml) was added to tert-butyl 3-[(5-bromo-1,3-thiazol-2-yl)amino]-4-oxopropylcarbamte (0.90 g, 2.57 mmol) and the mixture was stirred at room temperature overnight. The solvent was evaporated and the residual solid was triturated in ether, filtered and dried in vacuo to afford the title compound as a white solid (0.73 g, quantitative yield) m.p. 255°C ca.(dec.)

20 $^{1}\text{H-NMR}$ (DMSO-d₆) δ ppm: 2.83 (t, J=6.8 Hz, 2H, COC $_{12}\text{CH}_{2}\text{NH}_{2}$); 3.07 (q, J=6.4 Hz, 2H, COC $_{12}\text{CH}_{2}\text{NH}_{2}$); 7.55 (s, 1H, thiazole CH); 7.96 (bs, 3H, NH3+); 12.58 (s, 1H, CONH).

Analogously, the following compounds can be prepared:

- 25 2-(4-aminophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide 1 H-NMR (DMSO-d₆) δ ppm: 1.22 (d, 6H, CHMe₂); 3.07 (m, 1H, CHMe₂); 3.47 (s, 2H, COCH₂); 4.94 (s, 2H, NH₂); 6.48 (m, 2H, H3, H5 Ph); 6.93 (m, 2H, H2, H6 Ph); 7.12 (d, 1H, CH thiazole); 12.00 (s, 1H, CONH).
- 4-amino-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide 1 H-NMR (DMSO-d₆) δ ppm: 1.29 (d, 6H, CHMe₂); 3.12 (m, 1H, CHMe₂); 6.58 (m, 2H, H3,H5 Ph); 7.18 (d, 1H, CH thiazole); 7.82 (m, 2H, H2, H6 Ph); 12.80 (bs, 1H, CONH). 2-(2-amino-1,3-thiazol-4-yl)-N-(5-isopropyl-1,3-thiazol-2-
- 35 yl)acetamide m.p. 204-206°C ca.(dec.)

¹H-NMR (DMSO-d₆) δ ppm: 1.24 (d, 6H, CH<u>Me₂</u>); 3.10 (m, 1H, C<u>H</u>Me₂); 3.54 (s, 2H, COCH₂); 6.30 (s, 1H, H5 thiazole); 6.88 (s, 2H, NH₂); 7.13 (s, 1H, H4 thiazole); 11.90 (s, 1H, CONH).

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Example 7

Preparation of N-(5-isopropyl-1,3-thiazol-2-yl)-butanamide

Triethylamine (0.97 ml; 6.34 mmol) and butanoyl chloride (0.52 ml; 5.07 mmol) were added in this order to a solution of 2-amino-5-isopropyl-1.3-thiazole (0.6 g: 4.23 mmol) in

of 2-amino-5-isopropyl-1,3-thiazole (0.6 g; 4.23 mmol) in dichloromethane (8 ml), cooled to -5° C.

The reaction mixture was stirred at -5°C for 2 hours and then warmed to room temperature. After additional 4 hours, the organic layer was washed with water, saturated sodium bicarbonate, 1N hydrochloric acid, brine, dried over sodium

bicarbonate, 1N hydrochloric acid, brine, dried over sodium sulfate and evaporated. The residue was recrystallized from cyclohexane to yield 0.45 g (50%) of the title compound as a colourless solid (m.p. 95-97°C)

 $^{1}\text{H-NMR}$ (DMSO-d₆) δ ppm: 11.82 (s, 1H, CONH); 7.11 (s, 1H, 20 thiazole CH); 3.08 (m, 1H, CHMe2); 2.34 (t, J = 7.1 Hz, 2H, COCH2CH2CH3); 1.58 (m, 2H, COCH2CH2CH3); 1.23 (d, J = 6.6 Hz, 6H, (CH3)2CH); 0.87 (t, J = 7.1 Hz, 3H, COCH2CH2CH3).

Analogously, the following compounds can be prepared:

N-(5-bromo-1,3-thiazol-2-yl)-butanamide m.p. 163-164°C

¹H-NMR (DMSO-d₆) δ ppm: 12.27 (bs, 1H, CONH); 7.50 (s, 1H, thiazole CH); 2.39 (t, 2H, COCH2CH2CH3); 1.59 (m, 2H, COCH2CH2CH3); 0.87 (t, 3H, COCH2CH2CH3);

30 N-(5-chloro-1,3-thiazol-2-yl)-butanamide m.p. 170-171°C

N-(5-phenyl-1,3-thiazol-2-yl)-butanamide m.p. 183-184°C

¹H-NMR (DMSO- d_6) δ ppm: 12.13 (s, 1H, CONH), 7.84 (s, 1H, thiazole CH); 7.58 (d, J = 6.8 Hz, 2H, o-Ph hydrogens); 7.39 (dd, J = 6.8 and 7.8 Hz, 2H, m-Ph hydrogens); 7.28 (t, J = 7.8 Hz, 1H, p-Ph hydrogens); 2.41 (t, J = 7.3 Hz, 2H,

5 COCH2CH2CH3); 1.61 (m, 2H, COCH2CH2CH3); 0.89 (t, J = 7.3 Hz, 3H, COCH2CH2CH3);

N-(5-nitro-1, 3-thiazol-2-yl)-butanamide m.p. 175-176°C

 $^{1}\text{H-NMR}$ (DMSO-d₆) δ ppm: 13.02 (s, 1H, CONH); 8.60 (s, 1H,

10 thiazole CH); 2.48 (t, J = 7.3 Hz, 2H, COCH2CH2CH3); 1.62 (m, 2H, COCH2CH2CH3); 0.89 (t, J = 7.3 Hz, 3H, COCH2CH2CH3);

N-(5-methyl-1,3-thiazol-2-yl)-butanamide m.p. 137-138°C

- 15 $^{1}\text{H-NMR}$ (CDCl₃) δ ppm: 11.89 (s, 1H, CONH); 7.04 (s, 1H, thiazole CH); 2.48 (t, J = 7.3 Hz, 2H, COCH2CH2CH3); 2.41 (s, 3H, CH3); 1.80 (m, 2H, COCH2CH2CH3); 1.02 (t, J = 7.3 Hz, 3H, COCH2CH2CH3);
 - N-(5-benzyl-1,3-thiazol-2-yl)-butanamide
- 20 m.p. 147-149°C

¹H-NMR (CDCl₃) δ ppm: 7.23 (m, 5H, Ph); 7.07 (s, 1H, thiazole CH); 4.08 (s, 2H, CH2Ph); 2.45 (t, J = 7.8 Hz, 2H, COCH2CH2CH3); 1.76 (m, 2H, COCH2CH2CH3); 0.97 (t, J = 7.8 Hz, 2H, COCH2CH2CH3);

- N-(5-isobutyl-1,3-thiazol-2-yl)-butanamide m.p. 58-60°C
 - ¹H-NMR (CDCl₃) δ ppm: 7.03 (s, 1H, thiazole CH); 2.61 (d, J = 7.3 Hz, 2H, Me2CHCH2); 2.45 (t, J = 7.8 Hz, 2H, COCH2CH2CH3); 1.81 (m, 1H, Me2CHCH2); 1.78 (m, 2H,
- 30 COCH2CH2CH3); 1.01 (t, J = 7.8 Hz, 3H, COCH2CH2CH3); 0.95, 0.93 (s, 6H, Me2CHCH2);
 - N-(5-cyclopropyl-1,3-thiazol-2-yl)-butanamide;
 - $N-\{5-[2-(methylsulfonyl)ethyl]-1,3-thiazol-2-yl\}-butanamide m.p. 153-155°C$
- 35 $^{1}\text{H-NMR}$ (CDCl₃) δ ppm: 11.01 (s, 1H, CONH); 7.21 (s, 1H, thiazole CH); 3.34 (m, 4H, CH3SO2CH2CH2); 2.90 (s, 3H,

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CH3SO2); 2.48 (t, J = 7.3 Hz, 2H, COCH2CH2CH3); 1.80 (m, 2H, COCH2CH2CH3); 1.02 (t, J = 7.3 Hz, 3H, COCH2CH2CH3); N-[5-(2-methylthioethyl)-1,3-thiazol-2-yl]-butanamide m.p. $67-69^{\circ}$ C

- 5 $^{1}\text{H-NMR}$ (CDCl₃) δ ppm: 11.63 (bs, 1H, NHCO), 7.26 (s, 1H, thiazole CH), 3.06 (t, J = 7.0 Hz, 2H, CH3SCH2CH2); 2.77 (t, J = 7.0 Hz, 2H, CH3SCH2CH2); 2.48 (t, J = 7.3 Hz, 2H, COCH2CH2CH3); 2.14 (s, 3H, CH3S); 1.80 (m, 2H, COCH2CH2CH3); 1.02 (t, J = 7.3 Hz, 3H, COCH2CH2CH3);
- 10 N-{5-[2-(methoxycarbonyl)ethyl]-1,3-thiazol-2-yl}-butanamide;
 N-[5-(3-methoxy-propyl)-1,3-thiazol-2-yl]-butanamid

N-[5-(3-methoxy-propyl)-1,3-thiazol-2-yl]-butanamide m.p. $80-82^{\circ}C$

¹H-NMR (CDCl₃) δ ppm: 11 (sb, 1H, NHCO); 7.07 (s, 1H, H4 thiazole); 3.41 (t, 2H, CH₂CH₂CH₂OMe); 3.34 (s 3H, O<u>CH₃</u>); 2.85 (t, 2H, <u>CH₂CH₂CH₂CH₂OMe</u>); 2.46 (t, 2H, NHCO<u>CH₂</u>); 1.91 (m, 2H, CH₂<u>CH₂CH₂OMe</u>); 1.80 (t, 2H, NHCOCH₂<u>CH₂CH₃</u>); 1.01 (t, 3H, NHCOCH₂CH₂CH₃);

N-[5-(2-ethoxy-ethyl)-1,3-thiazol-2-yl]-butanamide

- 20 m.p. 74-76°C
 - ¹H-NMR (CDCl₃) δ ppm: 7.14 (s, 1H, H4 thiazole); 3.64 (t, 2H, CH₂CH₂OEt); 3.52 (q 2H, OCH₂CH₃); 3.02 (t, 2H, CH₂CH₂OEt); 2.47 (t, 2H, NHCOCH₂); 1.80 (m, 2H, NHCOCH₂CH₂); 1.23 (t, 3H, OCH₂CH₃); 1.02 (t, 3H, NHCOCH₂CH₃);
- N-[5-(indol-3-yl-methyl)-1,3-thiazol-2-yl]-butanamide m.p. 240-242°C

¹H-NMR (CDCl₃) δ ppm: 9.95 (bs, 1H, CONH); 8.00 (bs, 1H, NH indole); 7.54 (d, 1H, H4 indole); 7.36 (d, 1H, H7 indole); 7.19 (m, 1H, H6 indole); 7.17 (s, 1H, thiazole CH); 7.09

- 30 (m, 1H, H5 indole); 7.07 (s, 1H, H2 indole); 4.23 (s, 2H, CH_2); 2.39 (m 2H, CH_2CO); 1.73 (m, 2H, $CH_3CH_2CH_2$); 0.96 (t, 3H, $CH_3CH_2CH_2$).
 - N-[5-(3-dimethylaminoimino-butyl)-1,3-thiazol-2-yl]-butanamide.

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2-amino-5-isopropyl-1,3-thiazole

2 ml (18.6 mmol) of 3-methylbutyraldehyde were dissolved in 15 ml of dioxane. 40.4 ml (18.6 mmol) of a solution 2 % v/v of bromine in dioxane was dropped therein at 0°C.

5 The mixture was maintained at room temperature under stirring for 2 hours, then 2.83 g (37.2 mmol) of thiourea and 5 ml of ethanol were added.

After 6 hours at room temperature the solution evaporated to dryness, the residue was dissolved in 10 methylene chloride and the product extracted with hydrochloric acid; the aqueous layer was made basic by using 30% ammonium hydrate and extracted again methylene chloride. The organic phase was dried over sodium sulfate and evaporated under vacuum. The residue was 15 chromatographed on a silica gel column, eluting with cyclohexane-ethylacetate to give 1.1 g (42% yield) of the title compound.

 $^{1}\text{H-NMR}$ (DMSO-d₆) δ ppm: 6.6 (s, 2H, NH2); 6.58 (s, 1H, thiazole CH); 2.9 (m, 1H, CHMe2); 1.18 (s, 3H, MeCHMe); 1.17 (s, 3H, MeCHMe).

Analogously the following products can be prepared starting from the suitable aldehyde:

2-amino-5-isobutyl-1,3-thiazole

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- 25 1 H-NMR (DMSO-d₆) δ ppm: 6.61 (sb, 2H, NH2); 6.56 (s, 1H, thiazole CH); 2.39 (dd, 2H, $\underline{\text{CH}_{2}}\text{CHMe}_{2}$); 1.65 (m, 1H, $\underline{\text{CHMe}_{2}}$); 0.85 (d, 6H, $\underline{\text{CH}\underline{\text{Me}_{2}}}$);
 - 2-amino-5-phenyl-1,3-thiazole;
 - 2-amino-5-benzyl-1,3-thiazole;
- 30 $^{1}\text{H-NMR}$ (DMSO-d₆) δ ppm: 7.3-7.2 (m, 5H, Ph); 6.68 (s, 1H, thiazole CH); 6.67 (sb, 2H, NH2); 3.87 (s, 2H, CH₂Ph);
 - 2-amino-5-(3-indolylmethyl)-1,3-thiazole;
 - 2-amino-5-ethoxyethyl-1,3-thiazole;
 - 2-amino-5-methoxypropyl-1,3-thiazole;
- 35 2-amino-5-cyclopropyl-1,3-thiazole;
 - 2-amino-5-methylthioethyl-1,3-thiazole;
 - 2-amino-5-formyl-1,3-thiazole;

2-amino-5-(3-dimethylaminoimino)butyl-1,3-thiazole.

Example 9

4-ethoxy-1-butanol

- 5 85 mg (0.004 mmol) of sodium were dissolved in 50 ml of methanol and 8.7 g (0.23 mol) of sodium borohydride were added. A solution of 4.6 g (0.032 mol) of methyl 4-ethoxy-butanoate in 20 ml of methanol was dropped to the mixture under stirring. The reaction is maintained at reflux for 6 hours, then 300 ml of brine were added and the product was extracted with methylene chloride. The organic layer was dried over anhydrous sodium sulfate and evaporated to dryness to give 2.25 g (61% yield) of the title compound.
- 15 Analogously the following products can be prepared starting from the suitable ester:
 - 2-cyclopropyl-1-ethano1;
 - 3-(3-indoly1)-1-propanol; and
 - 5-dimethylaminoimino-1-hexanol.

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Example 10

Methyl 3-(3-indolyl)-propanoate

2 g (10.57 mmol) of 3-indolepropionic acid were dissolved in 50 ml of methanol. The solution was cooled to 0°C and 5 ml of sulfuric acid 96% were dropped under stirring. The solution was maintained at room temperature overnight and then poured onto ice-water, basified with 30 % ammonium hydrate and finally extracted with methylene chloride. The organic layer was dried over anhydrous sodium sulfate and evaporated to dryness to give 2.3 g of an oily product (93% yield).

Analogously the following products can be prepared starting from the suitable carboxylic acid:

Methyl 4-ethoxy butanoate;

Methyl cyclopropylacetate; and

5-methoxycarbonylethyl-2-amino-1,3-thiazole.

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Example 11

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4-methyl-pentanal

1.24 ml (14.18 mmol) of oxalyl chloride were dissolved in 10 ml of methylene chloride and after cooling to -60°C, 2.31 ml of DMSO (35 mmoles) were dropped.

After 5 minutes at the same temperature, a solution of 1 ml (11.9 mmol) of 4-methyl-1-pentanol in 10 ml of methylene chloride was slowly dropped. The mixture was maintained under stirring for 30 minutes at the same temperature, then 8.3 ml (59.5 mmol) of triethylamine were added. After 2 hours at 0°C water was added. The mixture was diluted with methylene chloride and washed successively with hydrochloric acid, water, saturated sodium bicarbonate and finally with brine. The organic layer was dried over anhydrous sodium sulfate and evaporated to dryness to give 0.7 g (25% yield) of the title compound.

Analogously the following products can be prepared starting from the suitable alcohol:

20 2-cyclopropyl-1-ethanal;

4-methylthio-1-butanal;

4-ethoxy-1-butanal;

5-methoxy-1-pentanal; and

5-dimethylaminoimino-1-hexanal.

Example 12

5-benzyloxy-1-methoxy-pentane

1.6 g (0.039 mol) of 55% sodium hydride in oil were added to of dimethylformamide under stirring temperature. 5 ml (0.026 mol) of 5-benzyloxy-1-pentanol and (0.039 mol) of methyl iodide were then added successively. After a night the excess of sodium hydride was decomposed with water and the solvent evaporated under vacuum. The residue was redissolved with methylene chloride and washed with water. The organic layer was finally dried over anhydrous sodium sulfate and evaporated to give 3.5 g (70% yield) of the title compound.

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Analogously, by using ethyl iodide, the following compound can be prepared:

4-ethoxy-butanoic acid.

5 Example 13

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5-methoxy-1-pentanol

3.5 g (0.018 mol) of 5-benzyloxy-1-methoxy-pentane were dissolved in 50 ml of ethanol and 400 mg of 10% palladium on activated charcoal were added. The mixture was hydrogenated at 40 psi at room temperature for 5 hours, then filtered on celite and evaporated under vacuum to give 1.77 g (84% yield) of the title compound.

Example 14

15 Ethyl 5-dimethylaminoimino-hexanoate

15.8 g (100 mmol) of ethyl 4-acetyl-butanoate and 6 g (100 mmol) of anhydrous N,N-dimethyl hydrazine in 50 ml of toluene containing 0.1 ml of trifluoroacetic acid were heated at 70 °C for 5 hours. The mixture was then washed with water, dried over anhydrous sodium sulfate and evaporated to give 12.3 g (79% yield) of the title compound.

Example 15

N-[5-(3-oxo-buty1)-1,3-thiazol-2 yl]-butanamide

To a stirred solution of 200 mg (1 mmol) of cupric acetate in 10 ml οf water 141 (0.5 mmol) of N-15-(3mg dimethylaminoimino-butyl)-1,3-thiazol-2-yl]-butanamide 10 ml of tetrahydrofuran were added. After 2 hours the solvent was removed under reduced pressure, a mixture of aqueous ammonium chloride and ammonium hydroxide was added and the product extracted with methylene chloride to give after drying and concentration 114 mg (95% yield) of the title compound.

Example 16

2-benzyloxycarbonylamino-5-formyl-1,3-thiazole

mmol) 2-amino-5-formyl-1,3-thiazole (7.8)οf dissolved in 25 ml of tetrahydrofuran and 1.35 ml (9.36 of triethylamine and 1.33 m1 (9.36 mmol)benzylchloroformate were added at 0°C under stirring. After 8 hours at room temperature the solvent was evaporated, the residue redissolved with methylene chloride and washed with saturated tartaric acid and then with water. The solvent was dried over anhydrous sodium sulfate and evaporated. The residue was purified by chromatography on silica gel using cyclohexane-ethylacetate as eluent to give 1.3 g yield) of the title compound.

Example 17

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5-hydroxymethyl-2-benzyloxycarbonylamino-1,3-thiazole

15 530 mg (14 mmol) of sodium borohydride were added in small portions to a stirred solution of 7 g (27 mmol) of 2-benzyloxycarbonylamino-5-formyl-1,3-thiazole in 80 ml of methanol at room temperature. The reaction went on for 2 hours. After evaporation of the solvent the residue was 20 purified by chromatography (cyclohexane-ethylacetate) to give 5.05 g (71% yield) of the title compound.

Example 18

2-benzyloxycarbonylamino-5-(4-phenyl-1-sulfonyloxy)methyl-

25 1,3-thiazole

To а solution οf 1 g (3.78)mmol) of 2benzyloxycarbonylamino-5-hydroxymethyl-1,3-thiazole ml of pyridine 0.86 g (4.54 mmol) of tosyl chloride in 10 ml of pyridine were dropped at 0°C. After stirring at room temperature for 6 hours the solvent was evaporated under the residue redissolved with methylene chloride, washed with 1M hydrochloric acid and finally with water. The organic layer was dried over anhydrous sodium sulfate and evaporated. The residue was purified by chromatography on silica gel (cyclohexane-ethylacetate) to give 1.2 g (80% yield) of the title compound.

Example 19

2-benzyloxycarbonylamino-5-(2-ethoxycarbonyl-3-ethoxycarbonylethyl)-1,3-thiazole

To a suspension of 321 mg of 55% sodium hydride in oil (7.4 mmol) in 20 ml of tetrahydrofuran 1.12 ml (7.4 mmol) of diethylmalonate were added. After 30 minutes, a solution of 1.5 g (3.7 mmol) of 2-benzyloxycarbonylamino-5-(4-phenyl-1sulphonyloxy) methyl-1,3-thiazole in 10 ml of solvent was dropped under stirring. After 6 hours the solvent was evaporated and the residue redissolved with methylene chloride and washed with water. The organic layer was dried over anhydrous sodium sulfate and evaporated. The residue was chromatographed on a silica qel (cyclohexane-ethylacetate) to give 1.05 g (70% yield) of the title compound.

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Example 20

2-benzyloxycarbonylamino-5-ethoxycarbonylethyl-1,3-thiazole

To a solution of 4.06 g (10 mmol) of 2-benzyloxycarbonylamino-5-(2-ethoxycarbonyl-3-

ethoxycarbonylethyl)-1,3-thiazole in 10 ml of dimethylsulphoxide 0.64 g (11 mmol) of sodium chloride and 0.36 (20 mmol) of water were added under stirring. The mixture was heated at 160 °C for 8 hours and then the solvent removed under vacuum. The residue was redissolved with methylene chloride and washed with brine. After drying and concentration the residue was chromatographed on a silica gel column (cyclohexane-ethylacetate) to give 2.67 g (80% yield) of the title compound.

30 **Example 21**

2-amino-5-carboxyethyl-1,3-thiazole

1 g (2.9 mmol) of 2-benzyloxycarbonylamino-5-ethoxycarbonylethyl-1,3-thiazole was dissolved in 20 ml of 33% hydrobromic acid in acetic acid. After 2 hours at room temperature, the solvent was evaporated under vacuum. The residue was redissolved in the minimum amount of water and the hydrobromide of the title compound was precipitated by adding diethylether (75% yield).

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Example 22

Preparation of methyl 2-[3-(3-chloropropoxy)phenyl]acetate

A mixture of methyl (m-hydroxyphenyl)acetate ((5 g, 0.03 moles), 1-bromo-3-chloropropane (3.26 ml, 0.03 moles) and anhydrous potassium carbonate (6.4 g) in anhydrous acetone (60 ml) was refluxed for 40 hours. After cooling, the precipitate was filtered off and the solution was evaporated to dryness to give the product as an oil, which was purified by flash chromatography with hexane:AcOEt (97:3) as eluent (6.2 g, 85% yield).

Analogously, the following product can be prepared: methyl 2-[3-(2-chloroethoxy)phenyl]acetate.

15 **Example 23**

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Preparation of 2-[3-(3-chloropropoxy)phenyl]acetic acid

A mixture of methyl 2-[3-(3-chloropropoxy)phenyl] acetate (4.95 g, 0.02 moles) and a solution of 1N sodium hydroxide (0.02 moles) was stirred at room temperature for 24 hours.

20 After acidification the acid separated as white powder (4.53 g, 97% yield)

m.p. 83-84°C

Analogously, the following product can be prepared: 2-[3-(2-chloroethoxy)phenyl]acetic acid

25 m.p. 100-101°C.

Example 24

<u>Preparation of N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-morpholinyl)propoxy]phenyl}acetamide</u>

A mixture of 2-[3-(3-chloropropoxy)phenyl]-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide (1.00 g, 2.8 mmoles), morpholine (1.24 ml, 14.2 mmoles), potassium iodide (0.24 g, 1.4 mmoles) in anhydrous dimethylformamide (3.5 ml) was heated at 100°C for 6 hours. The solution was acidified and extracted with ether to eliminate unreacted products; then the solution was basified and extracted with ether. The solvent was evaporated to dryness to give the product as an oily semisolid which was purified by flash chromatography

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with dichloromethane: methanol (97:3) as eluent (1.0 g, 87% yield)

 1 H-NMR (DMSO- d_{ϵ}) δ ppm: 12.09 (bs, 1H, CONH); 7.21 (t, 1H, H5 Ph); 7.13 (s, 1H, thiazole CH); 6.8-6.9 (m, 3H, H2, H4, H6 Ph); 3.97 (t, 2H, $OCH_2CH_2CH_2N$); 3.66 (s, 2H, $COCH_2$); 3.54 (t, 2H, $OCH_{CH_{1}N}$; 3.07 (ept, 1H, C<u>H</u>Me,); 2.39 (t, 2H, OCH₂CH₂CH₂N); 2.33 (t, 2H, OCH₂CH₂N); 2.14 (quint, 2H, $OCH_2CH_2CH_2N)$; 1.22 (d, 6H, $CH\underline{Me}_2$).

- 10 Analogously, the following product can be prepared: $N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[2-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[2-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[2-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[2-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[2-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[2-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[2-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[2-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-[3-[3-[3-[3-1]]]]}}$ morpholinyl)ethoxy]phenyl}acetamide
 - 1 H-NMR (DMSO-d_e) δ ppm: 12.11 (bs, 1H, CONH); 7.20 (t, 1H, H5 Ph); 7.13 (d, 1H, thiazole CH); 6.7-6.9 (m, 3H, H2, H4, H6 Ph); 4.04 (t, 2H, OCH_2CH_2N); 3.66 (s, 2H, $COCH_2$); 3.55 (m, 4H, OCH_2CH_2N morpholine); 3.08 (m, 1H, $CHMe_2$); 2.66 (t, 2H, OCH_2CH_2N); 2.44 (m, 4H, OCH_2CH_2N morpholine); 1.22 (d, CHMe,);

 $N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(3-(1-isopropyl-1,3-thiazol-2-yl)-2-(3-(3-(3-isopropyl-1,3-thiazol-2-yl)-2$

- 20 pirrolidinyl)propoxy]phenyl}acetamide
 - 1 H-NMR (DMSO-d_s) δ ppm: 12.1 (bs, 1H, CONH); 7.19 (t, 1H, H5 Ph); 7.13 (d, 1H, thiazole CH); 6.7-6.9 (m, 3H, H2, H4, H6 Ph); 3.97 (t, 2H, $OCH_2CH_2CH_2N$); 3.66 (s, 2H, $COCH_2$); 3.08 (m, 1H, $C\underline{H}Me_{2}$; 2.50 (m, 2H, OCH, $CH_{2}CH_{2}N$); 2.41 (m, 4H, $CH_{2}N$
- 25 pirrolidine); 1.85 (m, 2H, OCH₂CH₂CH₂N); 1.65 (m, 4H, CH₂CH₂N pirrolidine); 1.23 (d, 6H, CHMe,);

 $N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-methyl-1-isopropyl-1$ piperazinyl)propoxy]phenyl}acetamide

 1 H-NMR (DMSO- d_{s}) δ ppm: 12.1 (bs, 1H, CONH); 7.19 (t, 1H, H5

- Ph); 7.13 (d, 1H, thiazole CH); 6.7-6.9 (m, 3H, H2, H4, H6 30 Ph); 3.95 (t, 2H, $OCH_2CH_2CH_3N$); 3.66 (s, 2H, $COCH_2$); 3.08 (m, 1H, CHMe₂); 2.15-2.45 (m, 10H, OCH,CH,CH,N+piperazine); 2.11 $(s, 3H, NMe); 1.82 (m, 2H, OCH_2CH_2CH_3N); 1.22 (d, 6H, CHMe_2).$ 2-{3-[2-(dimethylamino)ethoxy]phenyl}-N-(5-isopropyl-1,3-
- 35 thiazol-2-yl)acetamide

5

15

 1 H-NMR (DMSO- d_{6}) δ ppm: 12.08 (bs, 1H, CONH); 7.2-6.90 (m,

- 60 -

5H, Ph+thiazole CH); 4.00 (t, 2H, OCH₂CH₂N); 3.66 (s, 2H, COCH₂); 3.07 (m, 1H, CHMe₂); 2.59 (t, 2H, OCH₂CH₂N); 2.11 (s, 3H, NMe); 2.19 (s, 6H, Me₂N); 1.22 (d, 6H, CHMe₂); 2-{3-[3-(dimethylamino)propoxy]phenyl}-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide

¹H-NMR (DMSO-d₆) δ ppm: 12.05 (bs, 1H, CONH); 7.19-6.79 (m, 5H, Ph+thiazole CH); 3.95 (t, 2H, OCH₂CH₂CH₂N); 3.66 (s, 2H, COCH₂); 3.08 (m, 1H, CHMe₂); 2.32 (t, 2H, OCH₂CH₂CH₂N); 2.11 (s, 3H, NMe₂); 1.81 (m, 2H, OCH₂CH₂CH₂N); 1.22 (d, 6H, 10 CHMe₂).

Example 25

<u>Preparation of 2-[N-[2'-N'-(ethoxycarbonyl-methyl)-amino]-acetyl]-amino-5-bromo-thiazole</u>

15 A solution of N-(5-bromo-1,3-thiazol-2-y1)-2-bromoacetamide (0.35 g, 1.17 mmol) in DMF (5 ml) was added dropwise to a solution of glycine ethyl ester hydrochloride (0.33 g, 2.33 mmol)and triethylamine (0.49 ml, 3.5 mmol) in DMF (10 ml). After 3 hours at room temperature, the reaction mixture was 20 heated at 40°C for about 5 hours and then diluted with water and extracted with methylene chloride. The combined organic layers were washed with brine, dried, concentrated and chromatographed on silica gel using cyclohexane:ethyl acetate 7:3 as eluent. The title compound was obtained as a 25 colourless solid (0.15 g, 43%) m.p. 115-116°C 1 H-NMR (DMSO-d 6) δ ppm: 7.46 (s, 1H, H4thiaz), 4.05 (q, 2H, $OCH_{3}CH_{3}$), 3.49 (s, 2H, $NHCOCH_{3}$), 3.4 (s, 2H, $NHCH_{2}$), 1.18 (t, 3H, OCH, CH,).

30

Analogously, the following compound can be prepared: 2-anilino-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide: m.p. 143-145°C

 $^{1}\text{H-NMR}$ (DMSO-d⁶) δ ppm:11.92 (s, 1H, NHCO), 7.13 (s, 1H, 35 H4thiaz), 7.06-6.6 (m, 5H, Ph), 6.0 (t, 1H, NHCH₂), 3.95 (d, 2H, NHCH₂), 3.08 (m, 1H, CHMe₂), 1.23 (d, 6H, CHMe₂).

Example 26

Preparation of N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2bromophenyl) acetamide

- 5 a suspension of resin N-Cyclohexylcarbodiimide N'methylpolystyrene (0.251 g, 2.39 mmol g^{-1} , 0.6 mmol), previously washed with DCM (3X5 ml), in DCM (4 ml) at room temperature, 2-bromophenylacetic acid (0.086 g, 0.4 mmol) added. After 10 min., a solution of 2-amino-5-
- 10 isopropyl-1,3-thiazole (0.0284 g, 0.2 mmol) in DCM (4 ml) was added. The mixture was shaked for 24 hours at room temperature, the resin filtered and washed with DCM (3X10) ml). The filtrated were combined, washed with water, 5% HC1, water, saturated sodium bicarbonate and water, dried 15
- $^{1}\text{H-NMR}$ (DMSO- 6) δ ppm:10.05 (s broad, 1H, NHCOCH₂), 7.6-7.2 (m, 4H, Ar), 7.08 (s,1H, H4thiaz), 3.98 (s, 2H, NHCOCH,), 3.11 (m, 1H, $\underline{\text{CHMe}}_2$), 1.31 (d, 6H, $\underline{\text{CHMe}}_2$)
- 20 All the compounds were characterised by Mass Spectroscopy (MS). LC-MS confirmed that in each case the principle component had a molecular ion corresponding to the expected product.
- 25 Chromatography: Reverse phase HPLC with UV detection were run.

Mobile A: water (0.1% TFA)

over sodium sulfate and evaporated.

Mobile B: acetonitrile:water 95:5 (0.1% TFA)

Flow rate: 1ml/min

30 Gradient: 10-100% B in 12 minutes, hold 100% B 3 min, return 10% B in 5 min Detection: UV monitor 215, 254 and 300 nm

Sample were prepared as dilute solutions in acetonitrile

(1-1.5 mM).

35 The compounds showed an HPLC area % ranging from 40 to 100%.

Starting from the suitable carboxylic acid, the following compounds can be prepared:

```
N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2, 3, 4, 5, 6-isopropyl-1, 3-thiazol-2-yl)
 5
      pentafluorophenyl) acetamide;
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2-isopropyl-1, 3-thiazol-2-yl)
      chlorophenyl) acetamide;
      N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-isopropyl-1,3-thiazol-2-yl)
      nitrophenyl)acetamide;
10
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2-isopropyl-1, 3-thiazol-2-yl)
      trifluoromethylphenyl)acetamide;
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2-isopropyl-1, 3-thiazol-2-yl)
      methoxyphenyl) acetamide;
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2, 5-isopropyl-1, 3-thiazol-2-yl)
15
      dimethoxyphenyl) acetamide;
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2, 5-isopropyl-1, 3-thiazol-2-yl)
      difluorophenyl)acetamide;
      N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4,5-isopropyl-1,3-thiazol-2-yl)
      trimethoxyphenyl)acetamide;
20
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2, 6-isopropyl-1, 3-thiazol-2-yl)
      dichlorophenyl) acetamide;
      N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-chloro-6-
      fluorophenyl) acetamide;
      N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,5-isopropyl-1,3-thiazol-2-yl)
25
      dimethoxyphenyl)acetamide;
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(3, 5-isopropyl-1, 3-thiazol-2-yl)
      difluorophenyl) acetamide;
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2, 5-bis-isopropyl-1, 3-thiazol-2-yl)
      trifluoromethylphenyl)acetamide;
30
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-isopropyl-1, 3-thiazol-2-yl)
      methylthiophenyl)acetamide;
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-isopropyl-1, 3-thiazol-2-yl)
      methoxyphenyl)acetamide;
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-isopropyl-1, 3-thiazol-2-yl)
35
      bromophenyl) acetamide;
      N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-isopropyl-1, 3-thiazol-2-yl)
```

chlorophenyl) acetamide;

```
N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-isopropyl-1, 3-thiazol-2-yl)
            nitrophenyl)acetamide;
            N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-isopropyl-1, 3-thiazol-2-yl)
            trifluoromethylphenyl)acetamide;
  5
           N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-isopropyl-1, 3-thiazol-2-yl)
           methylphenyl)acetamide;
           N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(3-isopropyl-1, 3-thiazol-2-yl)
            trifluoromethylphenyl)acetamide;
           N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-isopropyl-1,3-thiazol-2-yl)
10
           chlorophenyl) acetamide;
           N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(3-isopropyl-1, 3-thiazol-2-yl)
            methoxyphenyl)acetamide;
            N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,4-
            dinitrophenyl) acetamide;
15
           N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2, 4-isopropyl-1, 3-thiazol-2-yl)
            dichlorophenyl) acetamide;
            N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2, 4-isopropyl-1, 3-thiazol-2-yl)
            difluorophenyl) acetamide;
            N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-benzyloxy-3-isopropyl-1,3-thiazol-2-yl)
20
           methoxyphenyl)acetamide;
            N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(3, 4-isopropyl-1, 3-thiazol-2-yl)
            dichlorophenyl) acetamide;
            N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-2-yl)-2-(3,4-isopropyl-1,3-thiazol-2-yl)-2-(3,4-isopropyl-2-yl)-2-(3,4-isopropyl-2-yl)-2-(3,4-isopropyl-
            difluorophenyl) acetamide;
25
            2-cyclopentyl-N-(5-isopropyl-1,3-thiazol-2-yl)-2-
            phenylacetamide;
            2-cyclohexyl-N-(5-isopropyl-1,3-thiazol-2-yl)-2-
            phenylacetamide;
           N-(5-isopropyl-1,3-thiazol-2-yl)- 2,2-diphenylacetamide;
30
           N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(2-isopropyl-1, 3-thiazol-2-yl)
            nitrophenoxy) acetamide;
            N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-isopropyl-1,3-thiazol-2-yl)
            nitrophenyl) propanamide;
           N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(4-isopropyl-1, 3-thiazol-2-yl)
35
           isobutylphenyl)propanamide;
            N-(5-isopropyl-1,3-thiazol-2-yl)-2-oxo-2-phenylacetamide;
            N-(5-isopropyl-1,3-thiazol-2-yl)-3-methyl-2-
            phenylpentanamide;
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- (E, Z)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-2butenamide; N-(5-isopropyl-1,3-thiazol-2-yl)bicyclo[4.2.0]octa-1,3,5triene-7-carboxamide; 5 N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl)butanamide; (1R)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2tert-butyl oxo-1-phenylethylcarbamate; (1R) - 2 - [(5-isopropyl-1, 3-thiazol-2-yl)amino] - 2-oxo-1phenylethyl acetate; 10 (1S)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1phenylethyl acetate; 2-(acetylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)-2phenylacetamide: (R) - 2 - (methoxy) - N - (5 - isopropyl - 1, 3 - thiazol - 2 - y1) - 2 -15 phenylacetamide; 3,3,3-trifluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxy-2-phenylpropanamide; 2-(2,4-dinitrophenyl)-N-(5-isopropyl-1,3-thiazol-2yl)acetamide; 20 N-(5-isopropyl-1,3-thiazol-2-yl)-2-(5-benzyloxy-1H-indol-3-yl)yl)acetamide; N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-methoxy-2-methyl-1H-isopropyl-1,3-thiazol-2-yl)indol-3-yl)acetamide; 2-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-isopropyl-125 oxoacetamide; 2-[1-(4-chlorobenzoy1)-5-methoxy-2-methyl-1H-indol-3-yl]-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide; 4-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-isopropyl-1)yl)butanamide; 30 N-(5-isopropyl-1,3-thiazol-2-yl)-3-(2-thienyl)propanamide 2-(5-chloro-1-benzothiophen-3-yl)-N-(5-isopropyl-1,3thiazol-2-yl)acetamide; 2-(1-benzothiophen-3-yl)-N-(5-isopropyl-1,3-thiazol-2yl)acetamide; 2-[2-(formylamino)-1,3-thiazol-4-yl]-N-(5-isopropyl-1,3-
- 2-[2-(formylamino)-1,3-thiazol-4-yl]-N-(5-isopropyl-1,3-thiazol-2-yl)-2-(methoxyimino)acetamide; 2-{2-[(2-chloroacetyl)amino]-1,3-thiazol-4-yl}-N-(5-isopropyl-1,3-thiazol-2-yl)-2-(methoxyimino)acetamide;

```
2-chloro-N-(4-{2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-
    oxoethyl}-1,3-thiazol-2-yl)acetamide;
    ethyl 2-(\{[2-[(5-isopropyl-1,3-thiazol-2-y1)amino]-2-oxo-1-
    (1H-pyrazol-3-yl)ethylidene]amino}oxy)acetate;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-oxo-4-(4-methyl-1)
    phenyl)butanamide;
    N-(5-isopropyl-1, 3-thiazol-2-yl)-4-(4-isopropyl-1, 3-thiazol-2-yl)
    nitrophenyl)butanamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenylbutanamide;
10
    benzyl
                       4-[(5-isopropyl-1,3-thiazol-2-yl)amino]-4-
    oxobutylcarbamate;
    4-(1,3-dioxo-1,3-dihydro-2H-isoindol-2-yl)-N-(5-isopropyl-
    1,3-thiazol-2-yl)butanamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-(4-methoxy-1-naphthyl)-
15
    4-oxobutanamide:
    3-(2-chlorophenoxy)-N-(5-isopropyl-1,3-thiazol-2-
    y1)propanamide;
    3-(4-methylphenoxy)-N-(5-isopropyl-1,3-thiazol-2-
    yl)propanamide;
20
    3-cyclopentyl-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide;
    3-cyclohexyl-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-methylpentanamide;
    3-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-
    yl)propanamide;
25
    3-(4-methoxyphenyl)-N-(5-isopropyl-1,3-thiazol-2-
    yl)propanamide;
    3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide;
    3-phenyl-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-5-oxo-5-phenylpentanamide;
30
    2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-phenylethyl
    acetate:
    N-(5-isopropyl-1,3-thiazol-2-yl)-2-[4-(1-oxo-1,3-dihydro-1)]
    2H-isoindol-2-yl)phenyl]propanamide;
    1-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-
35
    yl)cyclopentanecarboxamide;
    1-phenyl-N-(5-isopropyl-1,3-thiazol-2-
    yl)cyclopentanecarboxamide;
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chlorobenzenesulfonate;

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2-(3-bromo-4-methoxyphenyl)-N-(5-isopropyl-1,3-thiazol-2-
          yl)acetamide;
          2-(2-nitro-4-trifluoromethylphenyl)-N-(5-isopropyl-1,3-
          thiazol-2-yl)acetamide;
          5-cyclohexyl 1-(4-\{2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-
  5
          2-oxoethyl}benzyl)
                                                                                                                          (2S) - 2 - [(tert -
          butoxycarbonyl)amino]pentanedioate;
          2-(5,6-dimethyl-1H-benzimidazol-1-yl)-N-(5-isopropyl-1,3-
          thiazol-2-yl)acetamide;
10
          2-[5-(4-chlorophenyl)-2H-1,2,3,4-tetraazol-2-yl]-N-(5-
          isopropy1-1,3-thiazol-2-yl)acetamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-2-[5-(1-pyrrolidinyl)-2H-
          1,2,3,4-tetraazol-2-yl]acetamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-methyl-1-isopropyl-1,3-thiazol-2-yl)
15
          benzothiophen-2-yl)acetamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-4,4-bis(4-methylphenyl)-3-
          butenamide;
          2-cyclopropyl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide;
          N-{4-bromo-6-[(5-isopropyl-1,3-thiazol-2-yl)amino]-6-
20
          oxohexyl}benzamide;
          2-cyclopentyl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide;
          benzyl
                                                      6-[(5-isopropyl-1,3-thiazol-2-yl)amino]-6-
          oxohexylcarbamate;
          N\sim1\sim-(5-isopropyl-1,3-thiazol-2-yl)-N\sim4\sim-(2-propynyl)-2-isopropyl-1
25
          butenediamide;
           4-(2,4-dimethylphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-4-
          oxobutanamide;
           4-(4-benzyloxyphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-4-
          oxobutanamide;
30
          4-(\text{thiphen-}2-\text{yl})-N-(5-\text{isopropyl-}1,3-\text{thiazol-}2-\text{yl})-4-
          oxobutanamide;
          benzyl
                                2-{[(benzyloxy)carbonyl]amino}-5-[(5-isopropyl-1,3-
           thiazol-2-yl)amino]-5-oxopentanoate;
          4-(1H-indol-3-y1)-N-{3-[(5-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-isopropyl-1,3-thiazol-2-i
35
          y1)amino]-3-oxopropy1}butanamide;
           4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}phenyl
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N-(5-isopropyl-1, 3-thiazol-2-yl)-4-{[(2-isopropyl-1, 3-thiazol-2-yl)]}
         methoxyanilino) carbonyl] amino} benzamide;
         4-{[2-(isopropylsulfonyl)acetyl]amino}-N-(5-isopropyl-1,3-
         thiazol-2-y1)benzamide;
  5
         N-(5-isopropyl-1, 3-thiazol-2-yl)-4-\{[2-isopropyl-1, 3-thiazol-2-yl)-4-\{[2-isopropyl-1, 3-thiazol-2-yl)-4-\{[3-isopropyl-1, 3-thiazol-2-yl)-4-\{[3-isopropyl-1, 3-thiazol-2-yl)-4-\{[3-isopropyl-1, 3-thiazol-2-yl)-4-\{[3-isopropyl-1, 3-thiazol-2-yl)-4-\{[3-isopropyl-1, 3-thiazol-2-yl)-4-\{[3-isopropyl-1, 3-thiazol-2-yl]-4-\{[3-isopropyl-1, 3-thiazol-2-yl]-4-\{[3-isopropyl-2, 3-thiazol-2-yl]-4-\{[3-isopropyl-2-yl]-4-\{[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]-4-[3-isopropyl-2-yl]
          (phenylsulfanyl)acetyl]amino}benzamide;
         4-[(diethylamino)sulfonyl]-N-(5-isopropyl-1,3-thiazol-2-
         yl)benzamide;
         2-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
10
         3,5-difluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         3-{[(2-fluoroanilino)carbonyl]amino}-N-(5-isopropyl-1,3-
         thiazol-2-yl)benzamide;
         N-(5-isopropyl-1,3-thiazol-2-yl)-1-phenyl-5-propyl-1H-
         pyrazole-4-carboxamide;
15
         3-chloro-4-(isopropylsulfonyl)-N-(5-isopropyl-1,3-thiazol-
         2-y1)-5-(methylsulfany1)-2-thiophenecarboxamide;
         3-iodo-4-(isopropylsulfonyl)-N-(5-isopropyl-1,3-thiazol-2-
         y1)-5-(methylsulfanyl)-2-thiophenecarboxamide;
         2-{[(4-chlorophenyl)sulfonyl]methyl}-N-(5-isopropyl-1,3-
20
         thiazol-2-yl)-4-methyl-1,3-thiazole-5-carboxamide;
         5-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-
         (trifluoromethyl)-3-furamide;
         3,5-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         3,4-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
25
         2,4-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         2,3-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         3-iodio-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         2-iodio-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         4-iodio-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
30
         3-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         4-chloro-2-fluoro-N-(5-isopropyl-1,3-thiazol-2-
         yl)benzamide;
         5-bromo-2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
35
         2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
         2,4-difluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
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3,4-difluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;

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2,3,4,5,6-pentafluoro-N-(5-isopropyl-1,3-thiazol-2-
    yl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-methyl-3-nitrobenzamide;
 5
    N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-nitrobenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3-methyl-2-nitrobenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethyl-4-
    nitrobenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxy-2-
10
    nitrobenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-2-
    nitrobenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxy-3-
    nitrobenzamide;
15
    N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-4-
    nitrobenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dinitrobenzamide;
    5-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-
    nitrophenyl octanoate;
20
    N-(5-isopropy1-1,3-thiazo1-2-y1)-2-nitrobenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-nitrobenzamide;
    4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide;
    4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide;
    2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-nitrobenzamide;
25
    5-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide;
    2-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)-5-nitrobenzamide;
    4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide;
    4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitro-4-
30
    (trifluoromethyl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-
    bis(trifluoromethyl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-2,6-
    bis(trifluoromethyl)benzamide;
35
    N-(5-isopropyl-1,3-thiazol-2-yl)-2-
    (trifluoromethyl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3-
    (trifluoromethyl)benzamide;
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3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-
    (trifluoromethyl)benzamide;
    2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-
    (trifluoromethyl)benzamide;
5
    5-fluoro-N-(5-isopropyl-1, 3-thiazol-2-yl)-3-
    (trifluoromethyl)benzamide;
    2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-
    (trifluoromethyl)benzamide;
    4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-
10
    (trifluoromethyl)benzamide;
    methyl
                                  2-{[(5-isopropyl-1,3-thiazol-2-
    yl)amino]carbonyl}benzoate;
    4-cyano-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
    3-cyano-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
15
    N-(5-isopropyl-1,3-thiazol-2-yl)-3-methylbenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-2-methylbenzamide;
    N-(5-isopropy1-1,3-thiazo1-2-yl)-4-methylbenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-vinylbenzamide;
    N-(5-isopropyl-1, 3-thiazol-2-yl)-4-(2-isopropyl-1, 3-thiazol-2-yl)
20
    phenylethynyl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-4-
    methylbenzamide;
    2-benzyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenethylbenzamide;
25
    N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylbenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenylbenzamide;
    4-(tert-butyl)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-isopropylbenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-pentylbenzamide;
30
    3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-
    methylbenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3,4-dimethylbenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethylbenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-
35
    (methylsulfonyl)benzamide;
    3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-
    methoxybenzamide;
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3-\text{chloro-N-}(5-\text{isopropyl-1},3-\text{thiazol-2-yl})-4-
    methoxybenzamide;
    5-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-
    methoxybenzamide;
 5
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxybenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxybenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxybenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3,4-dimethoxybenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethoxybenzamide;
10
    N-(5-isopropyl-1,3-thiazol-2-yl)-2,4-dimethoxybenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-2,3-dimethoxybenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3-phenoxybenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenoxybenzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenoxybenzamide;
15
    2-ethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
    4-ethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-3,4,5-trimethoxybenzamide;
    3,4-diethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
    3,4,5-triethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
20
    N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-4-
    (methoxymethoxy) benzamide;
    4-butoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-propoxybenzamide;
    4-isopropoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
25
    N-(5-isopropyl-1,3-thiazol-2-yl)-1,3-benzodioxole-5-
    carboxamide:
    4-(benzyloxy)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
    4-(2-cyclohexen-1-yloxy)-N-(5-isopropyl-1,3-thiazol-2-
    yl)benzamide;
30
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-
    (trifluoromethoxy) benzamide;
    4-(difluoromethoxy)-N-(5-isopropyl-1,3-thiazol-2-
    yl)benzamide;
    N-(5-isopropyl-1,3-thiazol-2-yl)-4-
    (methylsulfanyl)benzamide;
35
    2-[(4-chlorophenyl)sulfinyl]-N-(5-isopropyl-1,3-thiazol-2-
    yl)benzamide;
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N-(5-isopropyl-1,3-thiazol-2-yl)-2-[(4-isopropyl-1,3-thiazol-2-yl)]
          nitrophenyl) sulfinyl]benzamide;
          N-(5-isopropyl-1, 3-thiazol-2-yl)-4-[(4-isopropyl-1, 3-thiazol-2-yl)]
          methylphenyl)sulfonyl]-3-nitrobenzamide;
  5
          N-(5-isopropyl-1,3-thiazol-2-yl)-3-
           [(trifluoromethyl)sulfanyl]benzamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxy-4-
           (methylsulfanyl)benzamide;
          2-[(2-cyanophenyl)sulfanyl]-N-(5-isopropyl-1,3-thiazol-2-
10
          yl)benzamide;
          N\sim1\sim, N\sim1\sim-diethyl-3, 6-difluoro-N\sim2\sim-(5-isopropyl-1, 3-
          thiazol-2-yl)phthalamide;
          4-formyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
          2-formyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
15
          4-{[(2,5-dimethoxyanilino)carbonyl]amino}-N-(5-isopropyl-
          1,3-thiazol-2-yl)benzamide;
          4-(hydroxymethyl)-N-(5-isopropyl-1,3-thiazol-2-
          yl)benzamide;
          4-\{[(5-isopropy1-1,3-thiazo1-2-y1)amino]carbony1\}-2-
20
          nitrobenzyl acetate;
          4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-
          nitrobenzyl 4-(acetylamino)-3-iodobenzoate;
           4-(acetylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
          N-(5-isopropyl-1, 3-thiazol-2-yl)-4-[(2-isopropyl-1, 3-thiazol-2-yl)]
25
          phenylacetyl)amino]benzamide;
           4-(acetylamino)-3-iodo-N-(5-isopropyl-1,3-thiazol-2-
          yl)benzamide;
           4-amino-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
           4-(dimethylamino)-N-(5-isopropyl-1,3-thiazol-2-
30
          yl)benzamide;
           3-(dimethylamino)-N-(5-isopropyl-1,3-thiazol-2-
          yl)benzamide:
           2-(methylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
          N-(5-isopropyl-1, 3-thiazol-2-yl)-2-[3-isopropyl-1, 3-thiazol-2-yl]-2-[3-isopropyl-1, 3-thiazol-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopropyl-2-yl]-2-[3-isopro
35
           (trifluoromethyl)anilino]benzamide;
           3-{[(5-bromo-1,3-dioxo-1,3-dihydro-2H-isoindol-2-
           yl)methyl]amino}-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
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N-(5-isopropyl-1,3-thiazol-2-yl)-4-(1H-pyrrol-1-isopropyl-1,3-thiazol-2-yl)
         yl)benzamide;
          2,6-dichloro-N-(5-isopropyl-1,3-thiazol-2-
         yl) isonicotinamide;
  5
        2-(4-bromopheny1)-6-(4-iodopheny1)-N-(5-isopropy1-1,3-
          thiazol-2-yl)isonicotinamide;
         N-(5-isopropyl-1, 3-thiazol-2-yl)-2-[3-isopropyl-1, 3-thiazol-2-yl]-2-[3-isopropyl-1, 3-thiazol-2-yl]-2-[3
          (trifluoromethyl)anilino]nicotinamide;
          5,6-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)nicotinamide;
10
          2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-6-
          methylnicotinamide;
          2,6-dichloro-5-fluoro-N-(5-isopropyl-1,3-thiazol-2-
          yl)nicotinamide
          N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenoxynicotinamide;
15
         N-(5-isopropyl-1, 3-thiazol-2-yl)-6-(2, 2, 2-isopropyl-1, 3-thiazol-2-yl)
          trifluoroethoxy) nicotinamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-2,6-dimethoxynicotinamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-2-quinoxalinecarboxamide;
         N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-
20
         pyrazinecarboxamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-8-quinolinecarboxamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-4-
          quinolinecarboxamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-1-phenyl-1H-
25
          pyrazole-4-carboxamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-1H-pyrazole-3-
          carboxamide:
          N-(5-isopropyl-1,3-thiazol-2-yl)-1H-pyrazole-4-carboxamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-phenyl-2H-
30
          1,2,3-triazole-4-carboxamide;
          2-[(2,1,3-benzoxadiazol-5-yloxy)methyl]-N-(5-isopropyl-1,3-
          thiazol-2-yl)-4-methyl-1,3-thiazole-5-carboxamide;
          N-(5-isopropyl-1,3-thiazol-2-yl)-9H-fluorene-1-carboxamide;
          N-(5-isopropy1-1,3-thiazol-2-yl)-7-methoxy-1-benzofuran-2-
35
          carboxamide;
          N-(5-isopropyl-1, 3-thiazol-2-yl)-1-[(4-isopropyl-1, 3-thiazol-2-yl)]
          methylphenyl)sulfonyl]-1H-pyrrole-3-carboxamide;
          2-ethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)-1-naphthamide;
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4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-1-naphthamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-2-naphthamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-9,10-dioxo-9,10-dihydro-2-
anthracenecarboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-9-oxo-9H-fluorene-4-
carboxamide
N-(5-isopropyl-1,3-thiazol-2-yl)-9-oxo-9H-fluorene-1-
carboxamide:
N-(5-isopropy1-1,3-thiazo1-2-y1)-8-oxo-5,6,7,8-tetrahydro-
2-naphthalenecarboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-1,3-dioxo-1,3-dihydro-2-
benzofuran-5-carboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-5-carboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-4-carboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-1-methyl-2-phenyl-1H-
indole-5-carboxamide;
2-butyl-N-(5-isopropyl-1,3-thiazol-2-yl)-1-methyl-1H-
indole-5-carboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-6-carboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-5-methoxy-1H-indole-2-
carboxamide;
1-allyl-2-butyl-N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-
 5-carboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-1-methyl-1H-indole-2-
carboxamide;
1-benzyl-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-1H-
 indole-5-carboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-1H-1,2,3-benzotriazole-5-
carboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethyl-4-
 isoxazolecarboxamide;
N-(5-isopropy1-1,3-thiazol-2-yl)-3-thiophenecarboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-3-methyl-2-
thiophenecarboxamide;
N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-
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N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-thiophenecarboxamide;
5-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)-2-thiophenecarboxamide;

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trichloroacryloyl)amino]-2-thiophenecarboxamide;
               N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide;
               N-(5-isopropyl-1,3-thiazol-2-yl)-5-(4-nitrophenyl)-2-
   5
              furamide;
               N-(5-isopropyl-1,3-thiazol-2-yl)-5-(2-nitrophenyl)-2-
               furamide:
                5-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-
               furamide;
10
               N-(5-isopropyl-1, 3-thiazol-2-yl)-5-[3-isopropyl-1, 3-thiazol-2-yl)-5-[3-isopropyl-1, 3-thiazol-2-yl)-5-[3-isopropyl-1, 3-thiazol-2-yl)-5-[3-isopropyl-1, 3-thiazol-2-yl)-5-[3-isopropyl-1, 3-thiazol-2-yl)-5-[3-isopropyl-1, 3-thiazol-2-yl)-5-[3-isopropyl-1, 3-thiazol-2-yl)-5-[3-isopropyl-1, 3-thiazol-2-yl)-5-[3-isopropyl-1, 3-thiazol-2-yl]-5-[3-isopropyl-1, 3-thiazol-2-yl]-5-[3
                (trifluoromethyl)phenyl]-2-furamide;
                5-(4-chloro-2-nitrophenyl)-N-(5-isopropyl-1,3-thiazol-2-
               yl)-2-furamide;
               N-(5-isopropyl-1, 3-thiazol-2-yl)-5-(4-methyl-2-yl)
15
               nitrophenyl)-2-furamide
                5-[2-chloro-5-(trifluoromethyl)phenyl]-N-(5-isopropyl-1,3-
                thiazol-2-yl)-2-furamide;
                tert-butyl (1S)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-1-
               methyl-2-oxoethylcarbamate
20
               tert-butyl
                                                                                          (1S, 2S) - 1 - \{ [(5-isopropyl-1, 3-thiazol-2-
               yl)amino]carbonyl}-2-methylbutylcarbamate
                tert-butyl
                                                                              2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-
                oxoethylcarbamate
                tert-butyl
                                                                        (1S)-5-amino-1-{[(5-isopropyl-1,3-thiazol-2-
25
               yl)amino]carbonyl}pentylcarbamate
                tert-butyl
                                                                                                                                                                                  4-[(imino{[(4-
                methylphenyl)sulfonyl]amino}methyl)amino]-1-{[(5-isopropyl-
                1,3-thiazol-2-yl)amino]carbonyl}butylcarbamate
                tert-butyl
                                                                                                                      1-{[(5-isopropyl-1,3-thiazol-2-
30
               yl)amino]carbonyl}-3-(tritylamino)propylcarbamate
                                                                     (1S)-1-(benzyloxymethyl)-2-[(5-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1,3-isopropyl-1
                tert-butyl
                thiazol-2-yl)amino]-2-oxoethylcarbamate
                tert-butyl
                                                                        (1S)-1-benzyl-2-[(5-isopropyl-1,3-thiazol-2-
               yl)amino]-2-oxoethylcarbamate
35
                                                            (1R)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-
               tert-butyl
                oxo-1-(benzylthiomethyl)ethylcarbamate
                benzyl (3S)-3-[(tert-butoxycarbonyl)amino]-4-[(5-isopropyl-
                1,3-thiazol-2-yl)amino]-4-oxobutanoate
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Following the same procedure as reported in Example 3, the compounds described in the table (I) below can be prepared:

Table I

MOLSTRUCTURE	m p °C	¹ H-NMR	Sol vent	
H,C S N		12.23 (s broad, 1H, NHCOCH ₂), 8.22-7.62 (m, 4H, Ar), 7.15 (s,1H, H4thiaz), 3.91 (s, 2H, NHCOCH ₂), 3.08 (m, 1H, CHMe ₂), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶	
H,C N N N N N N N N N N N N N N N N N N N		9.81 (s broad, 1H, NHCOCH ₂), 7.5-7.3 (m, 4H, Ar), 7.11 (s,1H, H4thiaz), 4.83 (s, 1H, NHCOCH), 3.44 (s,3H, Ome) 3.11 (m, 1H, CHMe ₂), 1.3 (d, 6H, CHMe ₂)	DMSO-d ⁶	

H ₃ C N O OMe OMe	125	12.06 (s broad, 1H, NHCO), 7.13 (s,1H, H4thiaz) 6.92-6.81 (m, 3H, Ar), 3.72 (s, 3H, OMe), 3.70 (s, 3H, OMe), 3.61 (s, 2H, NHCOCH ₂), 3.07 (m, 1H, CHMe ₂), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C S N Chiral		12.05 (s broad, 1H, NHCO), 7.38-7.29 (m, 5H, Ar), 7.12 (s,1H, H4thiaz), 4.95 (s,1H, CHOMe), 3.23 (s, 2H, CHOMe), 3.05 (m, 1H, CHMe ₂), 1.20 (d, 6H, CHMe ₂)	DMSO-d°
CH ₃ N O N OH ₃ CH ₃ CH ₃	-	12.08 (s broad, 1H, NHCOCH ₂), 7.28 (d, 2H, Ar), 7.13 (s, 1H, H4thiaz), 7.1 (d, 2H, Ar), 3.65 (s, 2H, NHCOCH ₂), 3.06 (m, 1H, CHMe ₂), 2.98 (s, 6H, NMe ₂), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C N O		12.22 (s, 1H, NHCO), 7.85-7.48 (m, 7H, Ar), 7.14 (s,1H, H4thiaz), 3.89 (s, 2H, CH ₂ CO), 3.07 (m, 1H, CHMe ₂), 1.22(d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C S N O Br	130 - 131	12.16 (s, 1H, NHCO), 7.52-7.29 (m, 4H, Ar), 7.14 (s,1H, H4thiaz), 3.73 (s, 2H, $\underline{\text{CH}_2\text{CO}}$), 3.08 (m, 1H, $\underline{\text{CHMe}_2}$), 1.22(d, 6H, $\underline{\text{CH}\underline{\text{Me}_2}}$)	DMSO-d ⁶
H,C S N	177 - 178	8.07-7.48 (m, 7H, Ar), 7.15 (s,1H, H4thiaz), 4.22 (s, 2H, CH ₂ CO), 3.06 (m, 1H, CHMe ₂), 1.20(d, 6H, CHMe ₂)	DMSO-d ⁶
H,C CH, O	_	12.61 (s, 1H, NHCO), 7.69-7.51 (m, 4H, Ar), 7.19 (s,1H, H4thiaz), 4.55 (dd, 1H, CHCO), 3.08 (m, 1H, CHMe ₂), 2.89 (m, 2H, COCH ₂ CH), 1.22(d, 6H, CHMe ₂)	DMSO-d ⁶
H ₂ C S N F	105 - 106	12.50 (s , 1H, NHCO), 7.53-7.51 (m, 5H, Ar), 7.18 (s,1H, H4thiaz), 6.12 (d,1H, J_{H-F} = 46.8, CHF), 3.09 (m, 1H, CHMe ₂), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₂ C N N N P F	-	11.20 (s broad, 1H, NHCO), 7.28-7.07 (m, 5H, Ar+H4thiaz), 3.80 (s, 2H, CH ₂ CO), 3.13 (m, 1H, CHMe ₂), 1.32(d, 6H, CHMe ₂)	DMSO-d ⁶

	0.00	111 45 (1 7 127 2770) 7 05	7 61
H,C S N O F	_	11.45 (s broad, 1H, NHCO), 7.37-7.14 (m, 5H, Ar+ H4thiaz), 3.88 (s, 2H, NHCOCH ₂), 3.12 (m, 1H, CHMe ₂), 1.32 (d, 6H, CHMe ₂)	DMSO-d°
H ₃ C N N N N N N N N N N N N N N N N N N N	98- 100	8.35 (s broad, 1H, NHCO), 7.40 (m, 5H, Ar), 6.99 (s, 1H, H4thiaz), 3.10 (m, 1H, CHMe ₂), 1.78 (m, 2H, CH ₂), 1.29 (m, 2H, CH ₂), 1.25 (d, 6H, CHMe ₂)	CDCl ₃
ON SCH,	_	12.06 (s broad, 1H, NHCOCH ₂), 7.13 (s, 1H, H4thiaz), 6.86-6.75 (m, 3H, Ar), 5.96 (s, 2H, OCH ₂ O), 3.60 (s, 2H, NHCOCH ₂), 3.05 (m, 1H, CHMe ₂), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C N S - N O =	-	12.1 (s broad, 1H, NHCOCH ₂), 7.2-7 (m, 4H, Ar+ H4thiaz), 3.64 (s, 2H, NHCOCH ₂), 3.07 (m, 1H, CHMe ₂), 2.8-1.97 (m, 6H, -CH ₂ CH ₂ CH ₂ -), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C S N CH ₃		12.06 (s broad, 1H, NHCO), 7.3 (m, 5H, Ar), 7.03 (s,1H, H4thiaz), 3.79 (q,1H, CHMe), 3.10 (m, 1H, CHMe ₂), 1.59 (d, 3H, CHMe), 1.30 (d, 6H, CHMe ₂)	DMSO-d ⁶
H,C-CH,		10 (s broad, 1H, $\underline{\text{NHCOCH}}_2$), 7.6-7.4 (m, 9H, Ar), 7.04 (s, 1H, H4thiaz), 3.84 (s, 2H, $\underline{\text{NHCOCH}}_2$), 3.11 (m, 1H, $\underline{\text{CHMe}}_2$), 1.31 (d, 6H, $\underline{\text{CHMe}}_2$)	DMSO-d ⁶
H ₃ C S N CH ₃	_	12.06 (s broad, 1H, NHCO), 7.26 (m, 5H, Ar), 6.99 (s,1H, H4thiaz), 3.79 (q,1H, CHMe), 3.10 (m, 1H, CHMe ₂), 1.59 (d, 3H, CHMe), 1.30 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C S Chiral	112 - 114	12.06 (s broad, 1H, NHCO), 7.33 (m, 5H, Ar), 7.11 (s,1H, H4thiaz), 3.93 (q,1H, CHMe), 3.07 (m, 1H, CHMe ₂), 1.40 (d, 3H, CHMe), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C S O N CH ₃	_	12.01 (s broad, 1H, NHCO), 7.11-6-65 (m, 5H, Ar+H4thiaz), 3.55 (s, 2H, NHCOCH ₂), 2.83 (s, 6H, NMe ₂), 2.56 (d, 2H, CH ₂ iPr), 1.74 (m, 1H, CHMe ₂), 0.87 (d, 6H, CHMe ₂)	DMSO-d ⁶

H ₃ C CH ₃	139 - 141	9.90 (s broad, 1H, NHCO), 7.04 (s, 1H, H4thiaz), 6.78 (m, 3H, Ar), 5.96 (s, 2H, OCH ₂ O), 3.72 (s, 2H, NHCOCH ₂), 2.60 (d, 2H, CH ₂ iPr), 1.85 (m, 1H, CHMe ₂), 0.93 (d, 6H, CHMe ₂)	CDCl ₃
S N CH,	_	12.0 (s broad, 1H, $\underline{\text{NHCO}}$), 7.28 (m, 6H, $\underline{\text{CH}_2\text{Ph}}$ +H4thiaz), 7.08-6.64 (m, 4H, Ar), 4.04 (s, 2H, $\underline{\text{CH}_2\text{Ph}}$), 3.53 (s, 2H, $\underline{\text{NHCO}_{\text{CH}_2}}$), 2.82 (s, 6H, $\underline{\text{NMe}_2}$)	DMSO-d ⁶
H,C CH,		12.08 (s broad, 1H, NHCO), 7.20-6.81 (m, 5H, Ar+H4thiaz), 4.01 (dd, 2H, OCH ₂ CH ₂ OMe), 3.68 (s, 2H, NHCOCH ₂), 3.61 (dd, 2H OCH ₂ CH ₂ OMe), 3.3 (s, 3H, OCH ₂ CH ₂ OMe), 3.05 (m, 1H, CHMe ₂), 1.22 (s, 6H, CHMe ₂)	DMSO-d ⁶
H _C C S NH ₂	_	12.81 (s broad, 1H, NHCO), 8.63-7.79 (m, 3H, Ar), 7.71 (s, 2H, NH ₂), 7.24 (s,1H, H4thiaz), 3.12 (m, 1H, $\underline{\text{CHMe}}_2$), 1.27 (d, 6H, $\underline{\text{CHMe}}_2$)	DMSO-d ⁶
H ₃ C N N P F	_	12.47 (s broad, 1H, NHCO), 8.13-7.37 (m, 4H, Ar), 7.23 (s,1H, H4thiaz), 3.13 (m, 1H, CHMe ₂), 1.27 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C OH ₃ ON O		12.0 (s broad, 1H, NHCO), 8.89-7.82 (m, 4H, Ar), 7.27 (s,1H, H4thiaz), 3.13 (m, 1H, CHMe ₂), 1.28 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C S N O O O N N N N N N N N N N N N N N N	_	12.74 (s broad, 1H, NHCO), 8.11-8.0 (2s, 2H, Ar), $7.\overline{82}$ (s, 2H, NH ₂), 7.24 (s,1H, H4thiaz), 3.15 (m, 1H, CHMe ₂), 1.27 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C N H CI	_	12.6 (s broad, 1H, NHCO), 8.06-7.60 (m, 3H, Ar), 7.23 (s,1H, H4thiaz), 3.12 (m, 1H, CHMe ₂), 1.27 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C SO ₂ CH ₃	-	8.54-8.31 (m, 3H, Ar), 6.98 (s,1H, H4thiaz), 3.43 (s, 3H, SO_2Me) 3.14 (m, 1H, $CHMe_2$), 1.35 (d, 6H, $CHMe_2$)	CDC1 ₃

	1177	0 16 0 06 (23 4) 7 25	D1600 76
N H O	173	8.16-8.06 (2d, 4H, Ar), 7.25 (s,1H, H4thiaz), 3.88 (s, 3H,	DMSO-d°
H.C. S OMe	175	COOMe), 3.14 (m, 1H, CHMe ₂), 1.28	
CH ₃	- / 0	(d, 6H, CHMe ₂)	
N H CI	164	8.50-7.86 (m, 3H, Ar), 7.24	DMSO-d ⁶
	_	(s,1H, H4thiaz), 3.15 (m, 1H,	
H ₃ C 0 N=0	166	<u>СН</u> Ме ₂), 1.28 (d, 6H, СН <u>Ме</u> ₂)	
CH ₃ 0			
		12.4 (s broad, 1H, NHCO), 8.12-	DMSO-d ⁶
110 T-N 0 0	178	7.21 (m, 3H, Ar), 7.22 (s,1H,	DIIBO U
H ₃ C s N	_	$H4thiaz$), 3.2-2.48 (m, 5H, $CHMe_2$,	
N-OH ₃	179	+ piperazine), 2.22 (s,3H, NMe),	
		1.27 (d, 6H, CH <u>Me</u> ₂)	
		12.6 (s broad, 1H, NHCO), 7.73-	DMSO-d ⁶
H.C. // N O CI		7.57 (m, 3H, Ar), 7.22 (s,1H,	
H.C s		H4thiaz), 3.15 (m, 1H, <u>CHMe</u> ₂),	
CI		1.27 (d, 6H, CH <u>Me₂)</u>	
		12.6 (s broad, 1H, NHCO), 8.16-	DMSO-đ ⁶
H ₃ C N O		8.05 (m, 4H, Ar), 7.24 (s,1H,	
H ₃ C CH ₃		H4thiaz), 3.13 (m, 1H, CHMe ₂),	
0		2.62 (s, 3H, COMe), 1.28 (d, 6H, CHMe ₂)	
40	207	9.4 (s broad, 1H, NHCO), 8.3 (s,	CDCl ₃
N O	-	1H, NH), 7.55-6.98 (m, 6H,	
H ₃ C S	209	indole+H4thiaz), 3.96 (s, 2H, COCH ₂), 3.10 (m, 1H, CHMe ₂), 1.30	
H WIN		(d, 6H, CHMe ₂)	
ңç	116	9.80 (s broad, 1H, NHCO), 7.37-	CDCl ₃
H _C	118	7.05 (m, 3H, Ar), 7.04 (d, 1H, H4thiaz), 3.84 (s,2H, COCH ₂), 3.11	
N	1 - 0	(m, 1H, <u>CH</u> Me ₂), 1.32 (d, 6H,	
S.		$CH\underline{Me}_2$)	
	148	10.20 (s broad, 1H, NHCO), 7.28-	CDC1 ₃
H ₃ C	-	7.01 (m, 4H, Ar+H4thiaz), 4.02	
H,C S N	150	(s,2H, COCH ₂), 3.13 (m, 1H,	
N-W		$(CHMe_2)$, 1.32 (d, 6H, $CHMe_2$)	
S		12.05 (s broad, 1H, NHCO), 10.82	DMSO-d ⁶
	170	$(s, 1H, NH), 7.48-6.\overline{90}$ (m, 5H,	
H ₃ C NNNNH	-	indole+H4thiaz), 3.74 (s,2H,	
H ₃ C S NH	172	$(COCH_2)$, 3.06 (m, 1H, $CHMe_2$), 2.36	
O Cri ₃		(s, 3H, Me), 1.21 (d, 6H, CH <u>Me</u> ₂)	
		12.07 (s broad, 1H, NHCO), 7.57-	DMSO-d6
H ₃ C	163	7.01 (m, 6H, indole+ $\overline{H4}$ thiaz),	
H ₃ C S	_	3.79 (s,2H, COCH ₂), 3.74 (s, 3H,	
0 N	165	NMe), 3.05 (m, $1H$, $CHMe_2$), 1.21 (d, $6H$, $CHMe_2$)	
N CH,			

H ₃ C N N O		10.20 (s broad, 1H, NHCO), 7.88-7.40 (m, 5H, Ar), 6.95 (s, 1H, H4thiaz), 4.04 (s,2H, COCH ₂), 3.07 (m, 1H, CHMe ₂), 1.27 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C CH ₃ O CH ₃	_	11.3 (s broad, 1H, NHCO), 7.52-6.28 (m, 5H, Ar+H4thiaz), 3.93 (s,2H, COCH ₂), 3.87 (s, 3H, OMe), 3.10 (m, 1H, CHMe ₂), 1.27 (d, 6H, CHMe ₂)	DMSO-d ⁶
H ₃ C S N	161 - 163	12.19 (s, 1H, NHCO), $8.49-7.34$ (m, 4H, Ar), 7.12 (s, 1H, H4thiaz), 2.56 (d, 2H, CH ₂ iPr), 1.75 (m, 1H, CHMe ₂), 0.86 (d, 6H, CHMe ₂)	DMSO-d ⁶
S N	166 - 168	12.20 (s, 1H, NHCO), 8.48-7.24 (m, 10H, 2Xar+H4thiaz), 4.06 (s, 2H, CH ₂ Ph), 3.77 (s, 2H, CH ₂ CO)	DMSO-d ⁶
H,C N O N	_	8.63-7.9 (m, 5H, Ar), 7.11 (s, 1H, H4thiaz), 3.85 (s, 2H, COCH ₂), 3.15 (m, 1H, CHMe ₂), 1.29 (d, 6H, CHMe ₂)	CDC13
S H O		11.6 (s broad, 1H, NHCO), 7.10 (s,1H, H4thiaz), 3.67 (s, 3H, $\underline{\text{CH}_3}\text{OCO}$), 3.15 (m, 1H, $\underline{\text{CHMe}_2}$), 2.60 (m, 2H, $\underline{\text{CH}_2}\text{CH}_2\text{CH}_2$), 2.46 (m, 2H, $\underline{\text{CH}_2}\text{CH}_2\text{CH}_2$), 2.09 (m, 2H, $\underline{\text{CH}_2}\text{CH}_2\text{CH}_2$), 1.34 (d, 6H, $\underline{\text{CHMe}_2}$)	CDCl ₃
H ₂ C S N N		10.6 (s broad, 1H, NHCO), 7.36 (m, 5H, Ar), 7.10 (s,1H, H4thiaz), 6.61 (d, 1H, J=15.8, CH=CHPh), 6.36 (dt, 1H, J=15.8, 7.3, CH=CHPh), 3.43 (dd, 2H, J=7.3, 1.3, COCH ₂), 3.14 (m, 1H, CHMe ₂), 1.33 (d, 6H, CHMe ₂)	CDCl ₃
H ₃ C N O Br	217 - 220	12.09 (s broad, 1H, NHCO), 11.5 (s, 1H, NH), 7.78-7.16 (m, 4H, indole), 7.13 (s,1H, H4thiaz), 3.78 (s, 2H, COCH ₂), 3.07 (m, 1H, CHMe ₂), 1.21 (d, 6H, CHMe ₂)	DMSO-d ⁶
H,C S N O N F	_	12.07 (s, 1H, NHCO), 11.03 (s, 1H, NH), 7.3-6.80 (m, 5H, indole+ H4thiaz), 3.77 (s, 2H, COCH ₂), 3.06 (m, 1H, CHMe ₂), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶

H ₃ C N N S		12.25 (s, 1H, NHCO), 8.02-7.4 (m, 4H, Ar), 7.15 (s, 1H, H4thiaz), 4.0 (s, 2H, COCH ₂), 3.07 (m, 1H, CHMe ₂), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶
H,C-O NON NON	l _	12.05 (s, 1H, NHCO), 10.77 (s, 1H, NH), 7.22-6.70 (m, 5H, indole+ H4thiaz), 3.75 (s, 2H, COCH ₂), 3.72 (s, 3H, OMe), 3.07 (m, 1H, CHMe ₂), 1.22 (d, 6H, CHMe ₂)	DMSO-d ⁶
H,C N N N N N N N N N N N N N N N N N N N	_	12.89 (s, 1H, NHCO), 10.75 (s, 1H, NH), 7.12-6.97 (m, 5H, indole+ H4thiaz), 3.10 (m, 1H, CHMe ₂), 3.01 (t, 2H, CH ₂ CH ₂ CO), 2.78 (t, 2H, CH ₂ CH ₂ CO), 1.25 (d, 6H, CHMe ₂)	DMSO-d ⁶
H,C S NH O	186 - 187	12.7 (s broad, 1H, NHCO), 8.18 (d, 1H, J=7.8, Ar), 7.71 (d, 1H, J=7.8, Ar), 7.24 (s,1H, H4thiaz), 3.15 (m, 1H, CHMe ₂), 1.27 (d, 6H, CHMe ₂)	DMSO-d ⁶
s H		10.8 (s broad, 1H, NHCO), 7.45 (s, 1H, H4thiaz), 3.33 (m, 1H, CHMe ₂), 2.54 (m, 2H, CH ₂ CHMe ₂), 2.42 (m, 1H, CH ₂ CHMe ₂), 1.53 (d, 6H, CH ₂ CHMe ₂), 1.21 (d, 6H, CHMe ₂)	CDC1 ₃
S NH O		12.4 (s broad, 1H, NHCO), 8.05-7.51 (m, 5H, Ph), 7.23 (s,1H, H4thiaz), 3.13 (m, 1H, CHMe ₂), 1.28 (d, 6H, CHMe ₂)	DMSO-d ⁶
S N O		11.8 (s broad, 1H, NHCO), 7.11 (s, 1H, H4thiaz), 3.08 (m, 1H, CHMe ₂), 2.25 (d, 2H, CH ₂ CO), 2.42 (m, 1H, CH ₂ CHMe ₂), 1.23 (d, 6H, CHMe ₂), 1.8-0.8 (m, 11H, cyclohexyl)	DMSO-d ⁶
S NH O		8.13 (d, 1H, H3fur), 7.84 (d, 1H, H5fur), 7.25 (d, 1H, H4thiaz), 6.69 (dd, 1H, H4fur), 7.45 (s, 1H, H4thiaz), 3.20 (m, 1H, CHMe ₂), 1.39 (d, 6H, CHMe ₂)	CDC1 ₃
S N O Br		12.7 (s broad, 1H, NHCO), 7.54-6.82 (m, 3H, H4thiaz+furane), 3.10 (m, 1H, CHMe ₂), 1.26 (d, 6H, CHMe ₂),	DMSO-d ⁶

CLAIMS

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1. The use of a compound which is a 2-amino-1,3-thiazole derivative of formula (I)

$$\begin{array}{c|c}
 & O \\
 & N \\$$

5 wherein

10

R is a halogen atom, a nitro group, an optionally substituted amino group or it is a group, optionally further substituted, selected from:

- i) straight or branched C_1-C_8 alkyl, C_2-C_6 alkenyl or C_2-C_6 alkynyl;
- ii) C₃-C₆ cycloalkyl;
- iii) aryl or arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;
- R_1 is an optionally further substituted group selected from:
 - i) straight or branched C₁-C₈ alkyl or C₂-C₆ alkenyl;
 - ii) 3 to 6 membered carbocycle or 5 to 7 membered
 heterocycle ring;
 - iii) aryl or arylcarbonyl;
- 20 iv) arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;
 - v) arylalkenyl with from 2 to 6 carbon atoms within the straight or branched alkenyl chain;
 - vi) an optionally protected amino acid residue;
- or a pharmaceutically acceptable salt thereof; in the manufacture of a medicament for treating cell proliferative disorders associated with an altered cell dependent kinase activity.
- 2. Use according to claim 1 wherein the said cell proliferative disorder is selected from the group consisting of cancer, Alzheimer's disease, viral infections, auto-immune diseases or neurodegenerative disorders.

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- 3. Use according to claim 2 wherein the cancer is selected from the group consisting of carcinoma, squamous cell carcinoma, hematopoietic tumors of myeloid or lymphoid lineage, tumors of mesenchymal origin, tumors of the central and peripheral nervous system, melanoma, seminoma, teratocarcinoma, osteosarcoma, xenoderoma pigmentosum, keratoctanthoma, thyroid follicular cancer and Kaposi's sarcoma.
- 10 according to claim 1 wherein the Use cell proliferative disorder is selected from the group consisting of benign prostate hyperplasia, familial adenomatosis polyposis, neuro-fibromatosis, psoriasis, vascular smooth cell proliferation associated 15 atherosclerosis, pulmonary fibrosis, arthritis glomerulonephritis and post-surgical stenosis and restenosis.
- 5. Use according to any one of the preceding claims 20 wherein the medicament enables tumor angiogenesis and metastasis inhibition.
 - **6.** A compound which is a 2-amino-1,3-thiazole derivative of formula (I)

$$\begin{array}{c|c}
 & O \\
 & N \\
 & N \\
 & H
\end{array}$$
(I)

25

5

wherein

R is a halogen atom, a nitro group, an optionally substituted amino group or it is a group, optionally further substituted, selected from:

- 30 i) straight or branched C_1-C_8 alkyl, C_2-C_6 alkenyl or C_2-C_6 alkynyl;
 - ii) C₃-C₆ cycloalkyl;
 - iii) aryl or arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;

 R_1 is an optionally further substituted group selected from:

- i) straight or branched C₁-C₈ alkyl or C₂-C₆ alkenyl;
- ii) 3 to 6 membered carbocycle or 5 to 7 membered
 heterocycle ring;
- iii) aryl or arylcarbonyl;
- iv) arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;
- v) arylalkenyl with from 2 to 6 carbon atoms within the straight or branched alkenyl chain;
 - vi) an optionally protected amino acid residue; or a pharmaceutically acceptable salt thereof; for use as a medicament; provided that each of R and $R_{\rm l}$, independently, is not a methyl group and that the compound is not 2-diethylaminomethyl-carbonylamino-5-chloro-1,3-thiazole.
 - 7. A compound which is a 2-amino-1,3-thiazole derivative of formula (I)

$$\begin{array}{c|c}
 & O \\
 & N \\
 & N \\
 & H
\end{array}$$

$$\begin{array}{c}
 & O \\
 & R_1
\end{array}$$

$$\begin{array}{c}
 & O \\
 & R_1
\end{array}$$

20 wherein

5

10

15

R is a halogen atom, a nitro group, an optionally substituted amino group or it is a group, optionally further substituted, selected from:

- i) straight or branched C_1-C_8 alkyl, C_2-C_6 alkenyl or C_2-C_6 alkynyl;
 - ii) C₃-C₆ cycloalkyl;
 - iii) aryl or arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;
- $R_{\rm l}$ is an optionally further substituted group selected 30 from:
 - i) straight or branched C_1-C_8 alkyl or C_2-C_6 alkenyl;
 - ii) 3 to 6 membered carbocycle or 5 to 7 membered heterocycle ring;
 - iii) aryl or arylcarbonyl;
- 35 iv) arylalkyl with from 1 to 8 carbon atoms within the straight or branched alkyl chain;

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- v) arylalkenyl with from 2 to 6 carbon atoms within the straight or branched alkenyl chain;
- vi) an optionally protected amino acid residue;
- or a pharmaceutically acceptable salt thereof;
- 5 provided that:
 - a) R and R, each independently, are not methyl;
 - b) when R is bromine or chlorine then, R_1 is not unsubstituted C_2-C_4 alkyl or an optionally substituted aminomethyl;
- 10 c) when R is nitro or phenyl, then $\mathrm{R}_{\scriptscriptstyle 1}$ is not unsubstituted phenyl.
- 8. A compound of formula (I), according to claim 7, wherein R is a halogen atom or an optionally substituted group selected from a straight or branched C_1 - C_4 alkyl, C_3 - C_6 cycloalkyl, aryl or an arylalkyl with from 1 to 4 carbon atoms within the alkyl chain; R_1 is an optionally substituted group selected from straight or branched C_1 - C_4 alkyl or alkenyl, aryl or arylalkyl with from 1 to 4 carbon atoms within the alkyl chain or it is an optionally protected amino acid residue.
- 9. A compound of formula (I), according to claim 8, wherein R is a bromine or chlorine atom or is an optionally substituted group selected from straight or branched C₁-C₄ alkyl, cyclopropyl, aryl or arylalkyl with from 1 to 2 carbon atoms within the alkyl chain; R₁ is an optionally substituted group selected from straight or branched C₁-C₄ alkyl or alkenyl, aryl or arylalkyl with from 1 to 4 carbon atoms within the alkyl chain or it is an optionally protected amino acid residue.
- 10. A compound of formula (I) according to claim 7 wherein R is a halogen atom or is selected from nitro, amino, alkylamino, hydroxyalkylamino, arylamino, C_3 - C_6 cycloalkyl and straight or branched C_1 - C_6 alkyl which is unsubstituted or substituted by hydroxy, alkylthio,

alkoxy, amino. alkylamino, alkoxycarbonylamino, alkoxycarbonylalkylamino, alkylcarbonyl, alkylsulfonyl, alkoxycarbonyl, carboxy or aryl which is unsubstituted or substituted by one or more hydroxy, halogen, nitro, 5 alkoxy, aryloxy, alkylthio, arylthio, alkylamino, dialkylamino, N-alkyl-piperazinyl, 4 – morpholinyl, arylamino, cyano, alkyl, phenyl, alkylcarbonyl, aminosulfonyl, aminocarbonyl, arylcarbonyl, alkoxycarbonyl or carboxy groups, or R is 10 an aryl group which is unsubstituted or substituted by one or more hydroxy, halogen, nitro, alkoxy, aryloxy, alkylthio, arylthio, amino, alkylamino, dialkylamino, N-alkyl-piperazinyl, 4-morpholinyl, arylamino, alkyl, phenyl, aminosulphonyl, aminocarbonyl, 15 alkylcarbonyl, arylcarbonyl, alkoxycarbonyl or carboxy groups;

- R_1 is a straight or branched C_1 - C_6 alkyl group or an aryl group, each being unsubstituted or substituted as defined above for R;
- or a pharmaceutically acceptable salt thereof; provided that:

- a) R and R, each independently, are not methyl;
- b) when R is bromine or chlorine then, R_1 is not unsubstituted C_2-C_4 alkyl or an optionally substituted aminomethyl;
- c) when R is nitro or phenyl, then R_1 is not unsubstituted phenyl.
- 11. A compound of formula (I) according to any one of the 30 preceding claims, whenever appropriate in the form of a pharmaceutically acceptable salt, selected from the group consisting of:
 - ethyl 3-[(5-bromo-1,3-thiazol-2-yl)amino]-3oxopropanoate;
- 35 2. N-(5-bromo-1,3-thiazol-2-yl)-2-phenyl-acetamide;
 - 3. N-(5-bromo-1,3-thiazol-2-yl)-benzamide;

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4. Ethyl 4-[(5-bromo-1,3-thiazol-2-yl)amino]-4-oxobutanoate;
    5. N-(5-Bromo-thiazol-2-yl)-3-hydroxy-propionamide;
    6. N-(5-Bromo-1,3-thiazol-2-yl)-4-hydroxybutanamide;
    7. N-(5-Bromo-thiazol-2-yl)-2-ethoxy-acetamide;
5
    8. 2-N-[2-(3-pyridyl)-acetyl-amino]-5-bromo-thiazole;
    9. 2-N-[2-(3-pyridyl)-acetyl-amino]-5-isopropyl-thiazole;
    10.N-(5-bromo-1,3-thiazol-2-yl)-2-(3-
       hydroxyphenyl) acetamide;
    11.N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-isopropyl-1,3-thiazol-2-yl)
10
       hydroxyphenyl)acetamide;
    12.N-(5-bromo-1,3-thiazol-2-yl)-2-(3-
        methoxyphenyl)acetamide;
    13.N-(5-isopropyl-1, 3-thiazol-2-yl)-2-(3-isopropyl-1, 3-thiazol-2-yl)
       methoxyphenyl)acetamide;
15
    14.N-(5-bromo-1,3-thiazol-2-yl)-2-(3-chorophenyl)acetamide;
    15.N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-
        chorophenyl) acetamide;
    16.N-(5-bromo-1,3-thiazol-2-yl)-2-(4-
        hydroxyphenyl)acetamide;
20
    17.N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-
        hydroxyphenyl) acetamide;
    18.N-(5-bromo-1,3-thiazo1-2-y1)-2-(3,4-
        dihydroxyphenyl)acetamide;
    19.N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4-
25
        dihydroxyphenyl)acetamide;
    20.N-(5-bromo-1,3-thiazol-2-yl)-2-(4-hydroxy-3-
        methoxyphenyl)acetamide;
    21.N-(5-isopropyl-1,3-thiazol-2-y1)-2-(4-hydroxy-3-isopropyl-1,3-thiazol-2-y1)
        methoxyphenyl)acetamide;
30
    22.N-(5-bromo-1,3-thiazol-2-yl)-2-(4-
        methoxyphenyl) acetamide;
    23.N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-
        methoxyphenyl) acetamide;
     24.N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-
35
        chlorophenyl)acetamide;
     25.N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-acetamide;
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26.N-(5-bromo-thiazol-2-yl)-4-sulfamoyl-benzamide;

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27.N-(5-isopropyl-thiazol-2-yl)-4-sulfamoyl-benzamide;
               28.4-amino-N-(5-bromo-1,3-thiazol-2-yl)butanamide;
               29.3-amino-N-(5-bromo-1,3-thiazol-2-yl)propionamide;
               30.N-(5-isopropyl-1,3-thiazol-2-yl)-butanamide;
   5
               31.N-(5-bromo-1,3-thiazol-2-yl)-butanamide;
               32.N-(5-chloro-1,3-thiazol-2-yl)-butanamide;
               33.N-(5-phenyl-1,3-thiazol-2-yl)-butanamide;
                34.N-(5-nitro-1,3-thiazol-2-yl)-butanamide;
                35.N-(5-methyl-1,3-thiazol-2-yl)-butanamide;
10
               36.N-(5-benzyl-1,3-thiazol-2-yl)-butanamide;
                37.N-(5-isobutyl-1,3-thiazol-2-yl)-butanamide;
                38.N-(5-cyclopropyl-1,3-thiazol-2-yl)-butanamide;
                39.N-\{5-[2-(methylsulfonyl)ethyl]-1,3-thiazol-2-yl\}-
                          butanamide;
15
                40.N-[5-(2-methylthioethyl)-1,3-thiazol-2-yl]-butanamide;
                41.N-\{5-[2-(methoxycarbonyl)ethyl]-1,3-thiazol-2-yl\}-
                          butanamide;
                42.N-[5-(3-methoxy-propyl)-1,3-thiazol-2-yl]-butanamide;
                43.N-[5-(2-ethoxy-ethyl)-1,3-thiazol-2-yl]-butanamide;
20
                44.N-[5-(indol-3-yl-methyl)-1,3-thiazol-2-yl]-butanamide;
                45.N-[5-(3-oxo-buty1)-1,3-thiazol-2 yl]-butanamide;
                46.2-[3-(3-chloropropoxy)phenyl]-N-(5-isopropyl-1,3-
                           thiazol-2-yl)acetamide;
                47.2-[3-(2-chloroethoxy)phenyl]-N-(5-isopropyl-1,3-thiazol-
25
                           2-y1)acetamide;
                48.2-(4-aminophenyl)-N-(5-isopropyl-1,3-thiazol-2-
                           yl)acetamide;
                49.4-amino-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide;
                50.2-(2-amino-1,3-thiazol-4-yl)-N-(5-isopropyl-1,3-thiazol-
30
                           2-yl)acetamide;
                 51.N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-1,3-thiazol-2-yl)-2-[3-(4-isopropyl-2-yl)-2-[3-(4-isopropyl-2-yl)-2-[3-(4-isopropyl-2-yl)-2-[3-(4-isopropyl-2-yl)-2-[3-(4-isopropyl-2-yl)-2-[3-(4-isopropyl-2-yl)-2-[3-(4-isopropyl-2-yl)-2-[3-(4-isopropyl-2-yl)-2-[3-(4-isopropyl-2-yl)-2-[3
                           morpholinyl)propoxy]phenyl}acetamide;
                 morpholinyl)ethoxy]phenyl}acetamide;
35
                 53.N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-1,3-thiazol-2-yl)-2-[3-(1-isopropyl-2-yl)-2-[3-(1-isopropyl-2-yl)-2-[3-(1-isopropyl-2-yl)-2-[3-(1-isopropyl-2-yl)-2-[3-(1-isopropyl-2-yl)-2-[3-(1-isopropyl-2-yl)-2-[3-(1-isopropyl-2-yl)-2-[3-(1-isopropyl-2-yl)-2-[3-(1-isopropyl-2-yl)-2-[3
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pirrolidinyl)propoxy]phenyl}acetamide;

- 54.N-(5-isopropyl-1,3-thiazol-2-yl)-2-{3-[3-(4-methyl-1-piperazinyl)propoxy]phenyl}acetamide;
- 55.2-{3-[2-(dimethylamino)ethoxy]phenyl}-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide;
- 5 56.2-{3-[3-(dimethylamino)propoxy]phenyl}-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 57.2-[4-(dimethylamino)phenyl]-N-(5-isobutyl-1,3-thiazol-2-yl)acetamide
 - 58.2-(1,3-benzodioxol-5-yl)-N-(5-isobutyl-1,3-thiazol-2-yl)acetamide
 - 59.N-(5-benzyl-1,3-thiazol-2-yl)-2-[4-(dimethylamino)phenyl]acetamide
 - 60.N-(5-isopropyl-1,3-thiazol-2-yl)-2-[3-(2-methoxyethoxy)-phenyl]acetamide
- 15 61.3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-(4-methyl-1-piperazinyl)benzamide
 - 62.N-(5-isobutyl-1,3-thiazol-2-yl)-2-(3-pyridinyl)acetamide
 - 63.N-(5-benzyl-1,3-thiazol-2-yl)-2-(3- pyridinyl)acetamide
 - 64.2-[N-[2'-N'-(ethoxycarbonyl-methyl)-amino]-acetyl]amino-5-bromo-thiazole
 - 65.2-anilino-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 66.(R)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylpropanamide
 - 67.(S)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylpropanamide
 - 68.N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 25 69.2,5-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 70.3,5-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 71.3,4-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 72.2,4-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 73.2,3-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 30 74.3-iodio-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 75.2-iodio-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 76.4-iodio-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 77.3-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 78.4-chloro-2-fluoro-N-(5-isopropyl-1,3-thiazol-2-
- 35 yl)benzamide

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- 79.5-bromo-2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 80.3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide

- 81.2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 82.4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 83.3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 84.2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 5 85.4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 86.2,4-difluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 87.3,4-difluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 88.2,3,4,5,6-pentafluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 10 89.N-(5-isopropyl-1,3-thiazol-2-yl)-4-methyl-3-nitrobenzamide
 - 90.N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-nitrobenzamide
 - 91.N-(5-isopropyl-1,3-thiazol-2-yl)-3-methyl-2-nitrobenzamide
 - 92.N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethyl-4-nitrobenzamide
 - 93.N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxy-2-nitrobenzamide
- 20 94.N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-2-nitrobenzamide
 - 95.N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxy-3-nitrobenzamide
 - 96.N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-4-
- 25 nitrobenzamide

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- 97.N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dinitrobenzamide
- 98.5-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-nitrophenyl octanoate
- 99.N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide
- 30 100. N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide
 - 101. N-(5-isopropyl-1,3-thiazol-2-yl)-4-nitrobenzamide
 - 102. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(methylsulfonyl)-3-nitrobenzamide
 - 103. 4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide
 - 104. 6-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide

- 105. 4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide
- 106. 2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-nitrobenzamide
- 5 107. 5-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide
 - 108. 2-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)-5-nitrobenzamide
 - 109. 4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-nitrobenzamide
 - 110. 4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitrobenzamide
 - 111. N-(5-isopropyl-1,3-thiazol-2-yl)-2-nitro-4-(trifluoromethyl)benzamide
- 15 112. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-bis(trifluoromethyl)benzamide

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- 113. N-(5-isopropyl-1,3-thiazol-2-yl)-2,6-bis(trifluoromethyl)benzamide
- 114. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(trifluoromethyl)benzamide
- 115. N-(5-isopropyl-1,3-thiazol-2-yl)-3-(trifluoromethyl)benzamide
- 116. 3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-(trifluoromethyl)benzamide
- 25 117. 2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-(trifluoromethyl)benzamide
 - 118. 5-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-(trifluoromethyl)benzamide
 - 119. 2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-(trifluoromethyl)benzamide
 - 120. 4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-3-(trifluoromethyl)benzamide
 - 121. methyl 4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}benzoate
- 35 122. methyl 2-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}benzoate
 - 123. 4-cyano-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 124. 3-cyano-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide

- 125. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methylbenzamide
- 126. N-(5-isopropyl-1,3-thiazol-2-yl)-2-methylbenzamide
- 127. N-(5-isopropyl-1,3-thiazol-2-yl)-4-methylbenzamide
- 128. N-(5-isopropyl-1,3-thiazol-2-yl)-4-vinylbenzamide
- 5 129. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(2-phenylethynyl)benzamide
 - 130. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-4-methylbenzamide
 - 131. 2-benzyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 10 132. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenethylbenzamide
 - 133. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylbenzamide
 - 134. N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenylbenzamide
 - 135. 4-(tert-butyl)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 15 136. N-(5-isopropyl-1,3-thiazol-2-yl)-4-isopropylbenzamide
 - 137. N-(5-isopropyl-1,3-thiazol-2-yl)-4-pentylbenzamide
 - 138. 3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methylbenzamide
 - 139. N-(5-isopropyl-1,3-thiazol-2-yl)-3,4-dimethylbenzamide
- 20 140. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethylbenzamide
 - 141. 4-acetyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 142. N-(5-isopropyl-1,3-thiazol-2-yl)-4- (methylsulfonyl)benzamide

- 143. 5-(aminosulfonyl)-2,4-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 144. 5-(aminosulfonyl)-4-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 145. 3-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxybenzamide
- 30 146. 3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxybenzamide
 - 147. 5-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxybenzamide
 - 148. N-(5-isopropyl-1,3-thiazol-2-yl)-4-methoxybenzamide
- 35 149. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxybenzamide
 - 150. N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxybenzamide
 - 151. N-(5-isopropyl-1,3-thiazol-2-yl)-3,4-dimethoxybenzamide

- 152. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethoxybenzamide
- 153. N-(5-isopropyl-1,3-thiazol-2-yl)-2,4-dimethoxybenzamide
- 5 154. N-(5-isopropyl-1,3-thiazol-2-yl)-2,3-dimethoxybenzamide
 - 155. N-(5-isopropyl-1,3-thiazol-2-yl)-3-phenoxybenzamide
 - 156. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenoxybenzamide
 - 157. N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenoxybenzamide
- 10 158. 2-ethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 159. 4-ethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 160. N-(5-isopropyl-1,3-thiazol-2-yl)-3,4,5-trimethoxybenzamide
 - 161. 3,4-diethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 15 162. 3,4,5-triethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 163. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methoxy-4-(methoxymethoxy)benzamide
 - 164. 4-butoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 20 165. N-(5-isopropyl-1,3-thiazol-2-yl)-4-propoxybenzamide
 - 166. 4-isopropoxy-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 167. N-(5-isopropyl-1,3-thiazol-2-yl)-1,3-benzodioxole-5-carboxamide
 - 168. 4-(benzyloxy)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 169. 4-(2-cyclohexen-1-yloxy)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 170. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(trifluoromethoxy)benzamide

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- 30 171. 4-(difluoromethoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 172. N-(5-isopropyl-1,3-thiazol-2-yl)-4- (methylsulfanyl)benzamide
 - 173. 2-[(4-chlorophenyl)sulfinyl]-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 174. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[(4-nitrophenyl)sulfinyl]benzamide

- 175. N-(5-isopropyl-1,3-thiazol-2-yl)-4-[(4-methylphenyl)sulfonyl]-3-nitrobenzamide
- 176. N-(5-isopropyl-1,3-thiazol-2-yl)-3[(trifluoromethyl)sulfanyl]benzamide
- 5 177. N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxy-4-(methylsulfanyl)benzamide
 - 178. 2-[(2-cyanophenyl)sulfanyl]-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 179. N~1~,N~1~-diethyl-3,6-difluoro-N~2~-(5-isopropyl-1,3-thiazol-2-yl)phthalamide
 - 180. 4-formyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 181. 2-formyl-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 182. 4-{[(2,5-dimethoxyanilino)carbonyl]amino}-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 15 183. 4-(hydroxymethyl)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 184. 4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-nitrobenzyl acetate
 - 185. 4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-nitrobenzyl 4-(acetylamino)-3-iodobenzoate
 - 186. 4-(acetylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 187. N-(5-isopropyl-1,3-thiazol-2-yl)-4-[(2-phenylacetyl)amino]benzamide

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- 25 188. 4-(acetylamino)-3-iodo-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 189. 4-amino-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 190. 4-(dimethylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 30 191. 3-(dimethylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 192. 2-(methylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 193. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[3-(trifluoromethyl)anilino]benzamide
 - 194. 3-{[(5-bromo-1,3-dioxo-1,3-dihydro-2H-isoindol-2-yl)methyl]amino}-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide

- 195. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(1H-pyrrol-1-yl)benzamide
- 196. 2,6-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)isonicotinamide
- 5 197. 2-(4-bromophenyl)-6-(4-iodophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)isonicotinamide
 - 198. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[3-(trifluoromethyl)anilino]nicotinamide
 - 199. 2,6-dichloro-N-(5-isopropyl-1,3-thiazol-2-yl)nicotinamide
- 200. 5,6-dichloro-N-(5-isopropyl-1,3-thiazol-2-

vl)nicotinamide

- 201. 2-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)-6-methylnicotinamide
- 15 202. 2,6-dichloro-5-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)nicotinamide
 - 203. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenoxynicotinamide
 - 204. N-(5-isopropyl-1,3-thiazol-2-yl)-6-(2,2,2-trifluoroethoxy)nicotinamide
- 20 205. N-(5-isopropyl-1,3-thiazol-2-yl)-2,6-dimethoxynicotinamide
 - 206. N-(5-isopropyl-1,3-thiazol-2-yl)-2-quinoxalinecarboxamide
 - 207. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-pyrazinecarboxamide
 - 208. N-(5-isopropyl-1,3-thiazol-2-yl)-8-quinolinecarboxamide
 - 209. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-4-quinolinecarboxamide
- 30 210. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-1-phenyl-1H-pyrazole-4-carboxamide
 - 211. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-1H-pyrazole-3-carboxamide
 - 212. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-pyrazole-4-
- 35 carboxamide

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213. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-phenyl-2H-1,2,3-triazole-4-carboxamide

- 214. 2-[(2,1,3-benzoxadiazol-5-yloxy)methyl]-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methyl-1,3-thiazole-5-carboxamide
- 215. N-(5-isopropyl-1,3-thiazol-2-yl)-9H-fluorene-1-carboxamide
- 216. N-(5-isopropyl-1,3-thiazol-2-yl)-7-methoxy-1-benzofuran-2-carboxamide
- 217. N-(5-isopropyl-1,3-thiazol-2-yl)-1-[(4-methylphenyl)sulfonyl]-1H-pyrrole-3-carboxamide
- 10 218. 2-ethoxy-N-(5-isopropyl-1,3-thiazol-2-yl)-1-naphthamide

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- 219. 4-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-1-naphthamide
- 220. N-(5-isopropyl-1,3-thiazol-2-yl)-2-naphthamide
- 15 221. N-(5-isopropyl-1,3-thiazol-2-yl)-9,10-dioxo-9,10-dihydro-2-anthracenecarboxamide
 - 222. N-(5-isopropyl-1,3-thiazol-2-yl)-9-oxo-9H-fluorene-4-carboxamide
 - 223. N-(5-isopropyl-1,3-thiazol-2-yl)-9-oxo-9H-fluorene-1-carboxamide
 - 224. N-(5-isopropyl-1,3-thiazol-2-yl)-8-oxo-5,6,7,8-tetrahydro-2-naphthalenecarboxamide
 - 225. N-(5-isopropyl-1,3-thiazol-2-yl)-1,3-dioxo-1,3-dihydro-2-benzofuran-5-carboxamide
- 25 226. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-5-carboxamide
 - 227. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-4-carboxamide
- 228. N-(5-isopropyl-1,3-thiazol-2-yl)-1-methyl-2-phenyl-1H-30 indole-5-carboxamide
 - 229. 2-butyl-N-(5-isopropyl-1,3-thiazol-2-yl)-1-methyl-1H-indole-5-carboxamide
 - 230. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-6-carboxamide
- 35 231. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methoxy-1H-indole-2-carboxamide
 - 232. 1-allyl-2-butyl-N-(5-isopropyl-1,3-thiazol-2-yl)-1H-indole-5-carboxamide

- 233. N-(5-isopropyl-1,3-thiazol-2-yl)-1-methyl-1H-indole-2-carboxamide
- 234. 1-benzyl-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-1H-indole-5-carboxamide
- 5 235. N-(5-isopropyl-1,3-thiazol-2-yl)-1H-1,2,3-benzotriazole-5-carboxamide
 - 236. N-(5-isopropyl-1,3-thiazol-2-yl)-3,5-dimethyl-4-isoxazolecarboxamide
 - 237. N-(5-isopropyl-1,3-thiazol-2-yl)-3-thiophenecarboxamide

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- 238. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methyl-2-thiophenecarboxamide
- 239. N-(5-isopropyl-1,3-thiazol-2-yl)-5-methyl-2-thiophenecarboxamide
- 15 240. 5-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)-2-thiophenecarboxamide
 - 241. N-(5-isopropyl-1,3-thiazol-2-yl)-3-[(2,3,3-trichloroacryloyl)amino]-2-thiophenecarboxamide
 - 242. 5-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
- 20 243. N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
 - 244. N-(5-isopropyl-1,3-thiazol-2-yl)-5-(4-nitrophenyl)-2-furamide
 - 245. N-(5-isopropyl-1,3-thiazol-2-yl)-5-(2-nitrophenyl)-2-furamide
- 25 246. 5-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
 - 247. N-(5-isopropyl-1,3-thiazol-2-yl)-5-[3-(trifluoromethyl)phenyl]-2-furamide
 - 248. 5-(4-chloro-2-nitrophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
 - 249. N-(5-isopropyl-1,3-thiazol-2-yl)-5-(4-methyl-2-nitrophenyl)-2-furamide
 - 250. 5-[2-chloro-5-(trifluoromethyl)phenyl]-N-(5-isopropyl-1,3-thiazol-2-yl)-2-furamide
- 35 251. tert-butyl (1R)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-phenylethylcarbamate
 - 252. (1R)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-phenylethyl acetate

- 253. (1S)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-phenylethyl acetate
- 254. (R,S)-2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
- 5 255. (R)-2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
 - 256. (S)-2-fluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
- 257. 2-(acetylamino)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-10 phenylacetamide
 - 258. (R,S)-2-(methoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
 - 259. (R)-2-(methoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
- 15 260. (S)-2-(methoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
 - 261. 3,3,3-trifluoro-N-(5-isopropyl-1,3-thiazol-2-yl)-2-methoxy-2-phenylpropanamide
 - 262. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(1-naphthyl)acetamide

- 263. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-naphthyl)acetamide
- 264. 2-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 25 265. 2-(1,3-benzodioxol-4-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 266. 2-(2,4-dinitrophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 267. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-methyl-1H-indol-30 3-yl)acetamide
 - 268. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(1-methyl-1H-indol-3-yl)acetamide
 - 269. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(5-methoxy-1H-indol-3-yl)acetamide
- 35 270. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(5-benzyloxy-1H-indol-3-yl)acetamide
 - 271. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-methoxy-2-methyl-1H-indol-3-yl)acetamide

- 272. 2-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-oxoacetamide
- 273. 2-(5-bromo-1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 5 274. 2-(5-fluoro-1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 275. 2-[1-(4-chlorobenzoy1)-5-methoxy-2-methyl-1H-indol-3-y1]-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 276. 3-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 277. 4-(1H-indol-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)butanamide
 - 278. N-(5-isopropyl-1,3-thiazol-2-yl)-3-(2-thienyl)propanamide
- 15 279. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-thienyl)acetamide

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- 280. N-(5-isopropyl-1,3-thiazol-2-yl)-2-oxo-2-(2-thienyl)acetamide
- 281. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-thienyl)acetamide
- 282. 2-(5-chloro-1-benzothiophen-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 283. 2-(1-benzothiophen-3-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 25 284. 2-[2-(formylamino)-1,3-thiazol-4-yl]-N-(5-isopropyl-1,3-thiazol-2-yl)-2-(methoxyimino)acetamide
 - 285. $2-\{2-[(2-\text{chloroacetyl}) \text{ amino}]-1,3-\text{thiazol}-4-yl\}-N-(5-\text{isopropyl}-1,3-\text{thiazol}-2-yl)-2-(methoxyimino) acetamide$
 - 286. 2-chloro-N-(4-{2-[(5-isopropyl-1,3-thiazol-2-
- 30 yl)amino]-2-oxoethyl}-1,3-thiazol-2-yl)acetamide
 - 287. ethyl 2-({[2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-(1H-pyrazol-3-yl)ethylidene]amino}oxy)acetate
 - 288. 2-(2-furyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-oxoacetamide
- 35 289. 2-(5-bromo-3-pyridinyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 290. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(7-methoxy-2-oxo-2H-chromen-4-yl)acetamide

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- 291. N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenyl-3-butenamide
- 292. N-(5-isopropyl-1,3-thiazol-2-yl)-4-oxo-4-(4-methyl-phenyl)butanamide
- 293. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(4-nitrophenyl)butanamide
- 294. N-(5-isopropyl-1,3-thiazol-2-yl)-4-phenylbutanamide
 - 295. benzyl 4-[(5-isopropyl-1,3-thiazol-2-yl)amino]-4-oxobutylcarbamate
 - 296. methyl 5-[(5-isopropyl-1,3-thiazol-2-yl)amino]-5-oxopentanoate
 - 297. 4-(1,3-dioxo-1,3-dihydro-2H-isoindol-2-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)butanamide
 - 298. N-(5-isopropyl-1,3-thiazol-2-yl)-4-(4-methoxy-1-naphthyl)-4-oxobutanamide
- 15 299. 3-(2-chlorophenoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 300. 3-(4-methylphenoxy)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 301. 3-cyclopentyl-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 302. 3-cyclohexyl-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 303. N-(5-isopropyl-1,3-thiazol-2-yl)-4-methylpentanamide
 - 304. 3-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 305. 3-(4-methoxyphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 306. 3-chloro-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
 - 307. 3-phenyl-N-(5-isopropyl-1,3-thiazol-2-yl)propanamide
- 30 308. 2-cyclohexyl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 309. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methylbutanamide
 - 310. N-(5-isopropyl-1,3-thiazol-2-yl)-5-oxo-5-phenylpentanamide
 - 311. 2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-phenylethyl acetate
 - 312. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[4-(1-oxo-1,3-dihydro-2H-isoindol-2-yl)phenyl]propanamide

- 313. 1-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)cyclopentanecarboxamide
- 314. 1-phenyl-N-(5-isopropyl-1,3-thiazol-2-yl)cyclopentanecarboxamide
- 5 315. 2-(3-bromo-4-methoxyphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 316. 2-(2-nitro-4-trifluoromethylphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 317. 5-cyclohexyl 1-(4-{2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethyl}benzyl) (2S)-2-[(tert-butoxycarbonyl)amino]pentanedioate
 - 318. 2-(5,6-dimethyl-1H-benzimidazol-1-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 319. 2-[5-(4-chlorophenyl)-2H-1,2,3,4-tetraazol-2-yl]-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 320. N-(5-isopropyl-1,3-thiazol-2-yl)-2-[5-(1-pyrrolidinyl)-2H-1,2,3,4-tetraazol-2-yl]acetamide
 - 321. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-methyl-1-benzothiophen-2-yl)acetamide
- 20 322. N-(5-isopropyl-1,3-thiazol-2-yl)-4,4-bis(4-methylphenyl)-3-butenamide

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- 323. 2-cyclopropyl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 324. N-{4-bromo-6-[(5-isopropyl-1,3-thiazol-2-yl)amino]-6-oxohexyl}benzamide
- 325. 2-cyclopentyl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 326. benzyl 6-[(5-isopropyl-1,3-thiazol-2-yl)amino]-6-oxohexylcarbamate
- 30 327. N~1~-(5-isopropyl-1,3-thiazol-2-yl)-N~4~-(2-propynyl)-2-butenediamide
 - 328. 4-(2,4-dimethylphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-4-oxobutanamide
 - 329. 4-(4-benzyloxyphenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-4-oxobutanamide
 - 330. 4-(thiphen-2-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)-4-oxobutanamide

- 331. benzyl 2-{[(benzyloxy)carbonyl]amino}-5-[(5-isopropyl-1,3-thiazol-2-yl)ámino]-5-oxopentanoate
- 332. 4-(1H-indol-3-yl)-N-{3-[(5-isopropyl-1,3-thiazol-2-yl)amino]-3-oxopropyl}butanamide
- 5 333. 4-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}phenyl 4-chlorobenzenesulfonate
 - 334. N-(5-isopropyl-1,3-thiazol-2-yl)-4-{[(2-methoxyanilino)carbonyl]amino}benzamide
- 335. 4-{[2-(isopropylsulfonyl)acetyl]amino}-N-(5-isopropyl-10 1,3-thiazol-2-yl)benzamide
 - 336. N-(5-isopropyl-1,3-thiazol-2-yl)-4-{[2-(phenylsulfanyl)acetyl]amino}benzamide

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- 337. 4-[(diethylamino)sulfonyl]-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
- 15 338. 2-bromo-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 339. 3,5-difluoro-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 340. 3-{[(2-fluoroanilino)carbonyl]amino}-N-(5-isopropyl-1,3-thiazol-2-yl)benzamide
 - 341. N-(5-isopropyl-1,3-thiazol-2-yl)-1-phenyl-5-propyl-1H-pyrazole-4-carboxamide
 - 342. 3-chloro-4-(isopropylsulfonyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-5-(methylsulfanyl)-2-thiophenecarboxamide
 - 343. 3-iodo-4-(isopropylsulfonyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-5-(methylsulfanyl)-2-thiophenecarboxamide
 - 344. 2-{[(4-chlorophenyl)sulfonyl]methyl}-N-(5-isopropyl-1,3-thiazol-2-yl)-4-methyl-1,3-thiazole-5-carboxamide
 - 345. 5-(4-chlorophenyl)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-(trifluoromethyl)-3-furamide
 - 346. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,3,4,5,6-pentafluorophenyl)acetamide
 - 347. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-fluorophenyl)acetamide
- 35 348. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-bromophenyl)acetamide
 - 349. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-chlorophenyl)acetamide

- 350. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-nitrophenyl)acetamide
- 351. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-trifluoromethylphenyl)acetamide
- 5 352. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-methoxyphenyl)acetamide

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- 353. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,5-dimethoxyphenyl)acetamide
- 354. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,5-difluorophenyl)acetamide
- 355. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4,5-trimethoxyphenyl)acetamide
- 356. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,6-dichlorophenyl)acetamide
- 15 357. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-chloro-6-fluorophenyl)acetamide
 - 358. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,5-dimethoxyphenyl)acetamide
 - 359. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,5-difluorophenyl)acetamide
 - 360. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,5-bis-trifluoromethylphenyl)acetamide
 - 361. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-methylthiophenyl)acetamide
- 25 362. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-methoxyphenyl)acetamide
 - 363. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-bromophenyl)acetamide
 - 364. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-chlorophenyl)acetamide
 - 365. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-fluorophenyl)acetamide
 - 366. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-nitrophenyl)acetamide
- 35 367. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-trifluoromethylphenyl)acetamide
 - 368. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-methylphenyl)acetamide

- 369. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-dimethylaminophenyl)acetamide
- 370. 2-[1,1'-biphenyl]-4-yl-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
- 5 371. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-trifluoromethylphenyl)acetamide
 - 372. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-bromophenyl)acetamide
 - 373. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-chlorophenyl)acetamide
- 374. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-nitrophenyl)acetamide

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- 375. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3-methoxyphenyl)acetamide
- 15 376. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,4-dinitrophenyl)acetamide
 - 377. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,4-dichlorophenyl)acetamide
 - 378. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2,4-difluorophenyl)acetamide
 - 379. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-benzyloxy-3-methoxyphenyl)acetamide
 - 380. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4-dichlorophenyl)acetamide
- 25 381. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4-difluorophenyl)acetamide
 - 382. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(3,4-dimethoxyphenyl)acetamide
 - 383. 2-(2,3-dihydro-1H-inden-5-yl)-N-(5-isopropyl-1,3-thiazol-2-yl)acetamide
 - 384. N-(5-isopropyl-1,3-thiazol-2-yl)-1-phenylcyclopropanecarboxamide
 - 385. 2-cyclopentyl-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
- 35 386. 2-cyclohexyl-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenylacetamide
 - 387. N-(5-isopropyl-1,3-thiazol-2-yl)- 2,2-diphenylacetamide

- 388. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(2-nitrophenoxy)acetamide
- 389. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-nitrophenyl)propanamide
- 5 390. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl)propanamide
 - 391. N-(5-isopropyl-1,3-thiazol-2-yl)-2-(4-isobutylphenyl)propanamide
 - 392. N-(5-isopropyl-1,3-thiazol-2-yl)-2-oxo-2-phenylacetamide
- 10 393. N-(5-isopropyl-1,3-thiazol-2-yl)-3-methyl-2-phenylpentanamide
 - 394. (E, Z)-N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl-2-butenamide
 - 395. N-(5-isopropyl-1,3-thiazol-2-yl)bicyclo[4.2.0]octa-1,3,5-triene-7-carboxamide
 - 396. N-(5-isopropyl-1,3-thiazol-2-yl)-3-oxo-1-indanecarboxamide
 - 397. N-(5-isopropyl-1,3-thiazol-2-yl)-2-phenyl)butanamide
 - 398. tert-butyl (1S)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-1-methyl-2-oxoethylcarbamate
 - 399. tert-butyl (1S,2S)-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-methylbutylcarbamate
 - 400. tert-butyl 2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate
- 25 401. tert-butyl (1S)-5-amino-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}pentylcarbamate
- 30 yl)amino]carbonyl}butylcarbamate

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- 403. tert-butyl 1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-3-(tritylamino)propylcarbamate
- 404. tert-butyl (1S)-1-(benzyloxymethyl)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate
- 35 405. tert-butyl (1S)-1-benzyl-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate
 - 406. tert-butyl (1R)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxo-1-(benzylthiomethyl)ethylcarbamate

407. benzyl (3S)-3-[(tert-butoxycarbonyl)amino]-4-[(5-isopropyl-1,3-thiazol-2-yl)amino]-4-oxobutanoate

- 408. tert-butyl (2S)-2-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-1-pyrrolidinecarboxylate
- 5 409. tert-butyl (1S)-1-(1H-indol-3-ylmethyl)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate
 - 410. tert-butyl (1S)-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-3-(methylsulfanyl)propylcarbamate
 - 411. tert-butyl (1S)-2-benzyloxy-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}propylcarbamate
 - 412. tert-butyl (1S)-1-(4-benzyloxybenzyl)-2-[(5-isopropyl-1,3-thiazol-2-yl)amino]-2-oxoethylcarbamate
 - 413. tert-butyl (1S)-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-2-methylpropylcarbamate
- 15 414. tert-butyl (1S)-1-{[(5-isopropyl-1,3-thiazol-2-yl)amino]carbonyl}-3-methylbutylcarbamate
 - 415. benzyl (4S)-4-[(tert-butoxycarbonyl)amino]-5-[(5-isopropyl-1,3-thiazol-2-yl)amino]-5-oxopentanoate and the pharmaceutically acceptable salts thereof.

12. A process for producing a compound of formula (I), as defined in claim 7, which process comprises reacting a compound of formula (II)

$$R \longrightarrow N NH_2$$
 (II)

25 with a compound of formula (III)

$$R_1$$
-COX (III)

wherein R and R_1 are as defined in claim 7 and X is hydroxy or a suitable leaving group;

- and, if desired, converting a 2-amino-1,3-thiazole 30 derivative of formula (I) into another such derivative of formula (I), and/or into a salt thereof.
 - 13. A process according to claim 12 wherein X is hydroxy, bromine or chlorine.

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14. A pharmaceutical composition comprising one or more pharmaceutically acceptable carriers and/or diluents and, as the active principle, an effective amount of a compound of formula (I) as defined in claim 7.

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PCT/EP 99/08306 CLASSIFICATION OF SUBJECT MATTER PC 7 C07D277/46 C07D C07D417/12 A61K31/426 A61K31/427 A61P35/00 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 CO7D A61K A61P Documentation searched other than minimum documentation to the extent that such documents are included. In the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) C. DOCUMENTS CONSIDERED TO BE RELEVANT Category ° Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim No. X WO 98 04536 A (OTSUKA PHARMACEUTICAL 1-14 COMPANY LIMITED) 5 February 1998 (1998-02-05) cited in the application page 101, line 22 -page 108, line 9; claims X EP 0 412 404 A (FUJISAWA PHARMACEUTICAL 1 - 14CO) 13 February 1991 (1991-02-13) cited in the application claims X US 4 027 031 A (DEBAUN JACK R ET AL) 1 - 1431 May 1977 (1977-05-31) the whole document -/---X Further documents are listed in the continuation of box C. X Patent family members are listed in annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the "A" document defining the general state of the art which is not considered to be of particular relevance invention "E" earlier document but published on or after the international "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-"O" document referring to an oral disclosure, use, exhibition or other means ments, such combination being obvious to a person skilled *P* document published prior to the international filing date but later than the priority date claimed "&" document member of the same patent family Date of the actual completion of the international search Date of mailing of the international search report 16 February 2000 02/03/2000 Name and mailing address of the ISA **Authorized officer** European Patent Office, P.B. 5818 Patentiaan 2 NL. – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo ni,

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Henry, J

Inter. mal Application No PCT/EP 99/08306

		CI/EP 99/08306
	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 21 28 941 A (SOCIETE MELLE-BEZONS) 16 December 1971 (1971-12-16) cited in the application claims	1-14
X	EP 0 261 503 A (VALEAS SPA) 30 March 1988 (1988-03-30) cited in the application claims	1-14
X	CHEMICAL ABSTRACTS, vol. 50, no. 1, 10 January 1956 (1956-01-10) Columbus, Ohio, US; abstract no. 964e, S.R.M.BUSHBY ET AL: "The antitrichomonal activity of amidonitrothiazoles" page 964; XP002130674 abstract & J.PHARM. AND PHARMACOL., vol. 7, 1955, pages 112-117,	1-14
X	CHEMICAL ABSTRACTS, vol. 61, no. 3, 3 August 1964 (1964-08-03) Columbus, Ohio, US; abstract no. 3087, MAX ROBBA ET AL: "Synthesis of thiazoles and isothiazoles. Their action on Trichomonas vaginalis and Candida albicans" XP002130675 abstract & ANN. PHARM. FRANC., vol. 22, no. 3, 1964, pages 201-210,	1-14
X	PETER J. ISLIP ET AL: "Schistosomicidal 5-nitro-4-thiazolines" JOURNAL OF MEDICINAL CHEMISTRY., vol. 15, no. 9, 1972, pages 951-954, XP002130668 AMERICAN CHEMICAL SOCIETY. WASHINGTON., US ISSN: 0022-2623 the whole document	1-14
X	ROGER D. WESTLAND ET AL: "Novel schistomicides. S-2-{'2-2(2-thiazolylcarbamoyl)ethyl!amino }ethyl hydrogen thiosulfate and related compounds" JOURNAL OF MEDICINAL CHEMISTRY., vol. 14, no. 10, 1971, pages 916-920, XP002130669 AMERICAN CHEMICAL SOCIETY. WASHINGTON., US ISSN: 0022-2623 the whole document	1-14
	_/	1

Inter mal Application No
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C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LEIF GREHN: "A method for nitration of thiazoles" JOURNAL OF HETEROCYCLIC CHEMISTRY., vol. 14, no. 5, August 1977 (1977-08), pages 917-919, XP002130670 HETEROCORPORATION. PROVO., US ISSN: 0022-152X the whole document	6-13
X	US 3 427 318 A (BARBER MICHAEL STUART ET AL) 11 February 1969 (1969-02-11) the whole document	6-13
X	H.ERLENMEYER ET AL: "Zur Kenntnis der Thiazol-4-sulfonsäure und der Thiazol-5-sulfonsäure" HELVETICA CHIMICA ACTA., vol. 28, 1945, pages 985-991, XP002130671 VERLAG HELVETICA CHIMICA ACTA. BASEL., CH ISSN: 0018-019X page 989	6-13
X	FR 1 499 557 A (MAY AND BAKER LIMITED) 18 September 1967 (1967-09-18) claims	6-13
X	US 3 591 600 A (FANCHER LLEWELLYN W) 6 July 1971 (1971-07-06) the whole document	6-13
X	FR 1 488 625 A (TOYO KOATSU INDUSTRIES INC.) 5 June 1967 (1967–06–05) claims	6-13
X	DE 16 42 352 A (MITSUI TOATSU CHEMICALS) 24 February 1972 (1972-02-24) the whole document	6-13
X	CHARLES D. HURD ET AL: "The 2-aminothiazoles" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY., vol. 71, December 1949 (1949-12), pages 4007-4010, XP002130672 AMERICAN CHEMICAL SOCIETY, WASHINGTON, DC., US ISSN: 0002-7863 the whole document	6-13

Intex onel Application No PCT/EP 99/08306

ategory ° Citation of document, with indication, where appropriate, of the relevant passages	Delevent to elele Ma
	Relevant to claim No.
TIMOTHY N. BIRKINSHAW ET AL: "Tautomerism in 2-trichloro- and 2-trifluoro-acetamidothiazoles" JOURNAL OF THE CHEMICAL SOCIETY, PERKIN TRANSACTIONS 1.,1982, pages 939-943, XP002130673 CHEMICAL SOCIETY. LETCHWORTH., GB ISSN: 0300-922X the whole document	6-13
US 3 374 082 A (LEMIN ALAN J) 19 March 1968 (1968-03-19) the whole document	6-13
CHEMICAL ABSTRACTS, vol. 81, no. 5, 5 August 1974 (1974-08-05) Columbus, Ohio, US; abstract no. 22258q, page 156; XP002130676 abstract	6-13
& JP 48 027467 B (SANKYO CO LTD) 22 August 1973 (1973-08-22) cited in the application	6-13
WO 99 65884 A (BRISTOL- MYERS SQUIBB COMPANY) 23 December 1999 (1999-12-23) claims	1-14

Information on patent family members

Inter onal Application No
PCT/EP 99/08306

				101/1	P 99/08306
Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9804536	Α	05-02-1998	AU	695817 B	20-08-1998
			AU	3635497 A	20-02-1998
a a			CA	2233611 A	05-02-1998
			CN	1198160 A	04-11-1998
			EP	0858452 A	19-08-1998
			JP	100 9 5777 A	14-04-1998
EP 0412404	A	13-02-1991	AT	133667 T	15-02-1996
			AU	635758 B	01-04-1993
			AU	6004590 A	07-02-1991
			CA	2022731 A	08-02-1991
			CN	1049337 A,B	
			DE	69025104 D	14-03-1996
			DE	69025104 T	04-07-1996
			DK	412404 T	26-02-1996
			ES	2082805 T	01-04-1996
			FI	96857 B	31-05-1996
			GR	3019009 T	31-05-1996
			HK	151596 A	16-08-1996
			HU	57752 A	30-12-1991
			HU	9500375 A	28-09-1995
			IL JP	95281 A 3068567 A	18-06-1996
					25-03-1991
			NO Ph	179638 B	12-08-1996
			PH PT	26766 A 94925 A,B	28-09-1992 18-04-1991
			ŔŮ	2010026 C	30-03-1994
			RU	2048468 C	20-11-1995
			ÜS	5369107 A	29-11-1994
			ÜS	5256675 A	26-10-1993
			ZA	9005858 A	29-05-1991
US 4027031	Α	31-05-1977	AT	350316 B	25-05-1979
			AT	98477 A	15-10-1978
			AU	2220177 A	17-08-1978
			BE	852075 A	05-09-1977
			CA	1068607 A	24-12-1979
			CH	626079 A	30-10-1981
			DE	2708327 A	03-11-1977
			FR	2348206 A	10-11-1977
			GR	66154 A	19-01-1981
			JP	52125164 A	20-10-1977
			NL	7702432 A	18-10-1977
			PH PT	11483 A	01-02-1978
			Г I	66258 A,B	01-04-1977
DE 2128941	Α	16-12-1971	FR	2092714 A	28-01-1972
			ES	392093 A	01-10-1974
			ES	392094 A	01-08-1974
			GB	1355718 A	05-06-1974
			JP	50004664 B	22-02-1975
EP 0261503	Α	30-03-1988	IT	1197259 B	30-11-1988
			AT	74915 T	15-05-1992
			DE	3778268 A	21-05-1992
	Α	11_02_1060	DE	677595 A	09-09-1966
US 3427318	A	11-02-1969	BE	U//333 A	02_02_1200

Information on patent family members

Inte: onel Application No PCT/EP 99/08306

Patent document cited in search report		Publication date		itent family nember(s)	Publication date
US 3427318	Α	-	DE FR GB	1542970 A 1470974 A 1145822 A	24-07-1969 03-05-1967
FR 1499557	A		NL OA	6603112 A 	12-09-1966 05-05-1970
US 3591600	A	06-07-1971	ES US	381519 A 3749775 A	16-01-1973 31-07-1973
FR 1488625	A	02-11-1967	NONE		
DE 1642352	A	24-02-1972	NONE		
US 3374082	A	19-03-1968	GB	1124270 A	**
JP 48027467	В	22-08-1973	NONE		— — 4 4 — — — — — — — — — — — — — — — —
WO 9965884	Α	23-12-1999	NONE		